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THE MSHA I.S. LIBRARY 1979–1989

U.S. Department of Labor
Elizabeth H. Dole, Secretary

Mine Safety and Health Administration
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Directorate of Technical Support
Denver Safety and Health Technology Center
Division of Mining Information Systems
Injury and Employment Information Branch

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PROGRAM CIRCULAR

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THE MSHA I.S. LIBRARY

(1979-1989)

BY

James A. Greenhalgh

October 1990

Injury and Employment Information Branch
Information Systems Division
Safety and Health Technology Center

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FOREWORD

This report was prepared in August 1990 by Jim Greenhalgh of the Injury and Employment Information Branch, Division of Mining Information Systems (DMIS), Safety and Health Technology Center, Denver, Colorado. Inquiries concerning information contained therein may be made by calling (303) 236-2729 or FTS 776-2729. This report extends through 1989 a summary of the Denver (I.S.) Library activities from 1979 through 1985 in a previous report.[1] This study is intended to not only trace the development of the library and its management, but also to provide the reader with an overview of the variety of services available through the I.S. Library in researching information on mine safety and health. The author would like to express his appreciation to Walt Becker, Mary S. Boyle, of the Systems Management and Documentation Branch, for their time, energy, and perseverance in developing and keeping up to date the software for the I.S. Library's computer program, and Jerry Middleton, Systems Software Programmer, Software Systems Branch, for his excellent work preparing the graphs used in this report.

2nd Revised Edition

This publication has been reviewed and approved for distribution by the Office of the Assistant Secretary for Mine Safety and Health.

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[1]Greenhalgh, James and Llewellyn, Rhys. G., The MSHA I. S. Library A Progress Report, 1979-1985 MSHA PC-7007, 1986.

Introduction

In 1979, a survey was conducted that substantiated what many researchers within MSHA had encountered for some time: "the absence of any comprehensive and integrated information service and more specifically, in the area of mining safety and health."[2] Professional employees in MSHA-Denver responding to this survey stated that it was difficult to stay informed of new developments in their respective fields; information was scant and difficult to obtain. The process to locate journals, technical reports, standards, and other publications was tedious and frustrating. Supervisors were often compelled to spend their own time tracking down information for their subordinates.

Some employees were aware of several small collections of mining information within MSHA-Denver, but these sources were not publicized, lacked coordination or organization, and consequently led to duplication in time, effort, space, and materials. The study concluded that a central information service library in MSHA would provide considerable support to MSHA objectives and meet MSHA's scientific and technical research needs. Not only would such a library increase efficiency and provide researchers with timely and comprehensive information; the material would be ordered, controlled, retrieved, and stored in one central location. The study also recognized that although there were several computerized data bases in existence which could be useful to MSHA, "... there is no data base which is specifically oriented to the information needs of the mining community."[3] November of 1979, a full-time professional librarian was hired to begin the process of meeting the technical and research needs of MSHA employees located not only in Denver but throughout the Nation. The purpose of this report is to trace the development of the library and to provide the reader with an understanding of the variety of services now available from it to researchers in the field of mine safety and health.

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[2] Edwards, Suellen S., and White, Travis G. "MSHA Information Service: Needs Assessment Development Plan." Unpublished Survey, U.S. Department of Labor, MSHA, May 22, 1979, p. 1.

[3] Ibid.

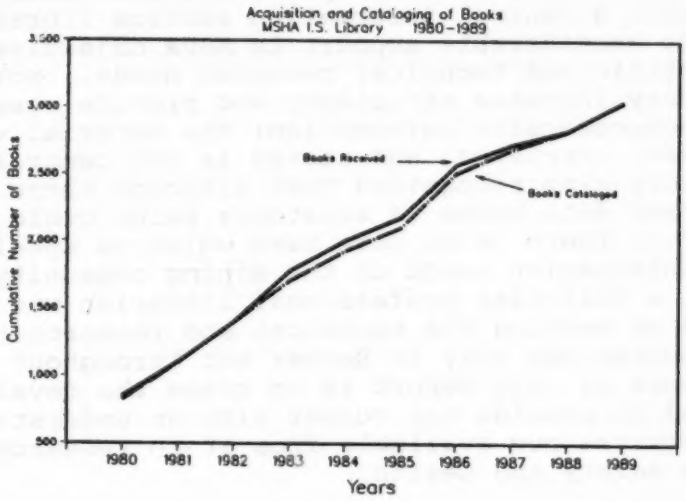
Contents of the Library

Books

Basic to any library are books; and this library is no exception. The library began its role with approximately 500 books donated from the various collections in the Denver MSHA offices. There are now close to 3,000 books cataloged in the library. The collection has over 130 books from South Africa, and also books from Canada, England, and Italy.

Numerous inquires were made by the librarian to various supervisors in order to determine what books they considered essential for this specialized library. The Denver offices supported this effort through donations and direct purchases of additional books. These included handbooks on civil and electrical engineering, materials handling, excavation, and industrial toxicology. Each year the library obtains and catalogs up-to-date books that pertain to the important fields of mine safety and health.

Graph 1



As seen in Graph 1, the number of books had increased by 50% by the end of 1980, and by the end of 1989 the library had six times as many books. The Online Computer Library Center (OCLC) provides a rapid way to catalog regular books. Catalog Card Sets are sent automatically when books are cataloged through this system. There is very little backlog in cataloging of regular books because of the help through the OCLC System.

The books are diverse in nature and yet still maintain their applicability to mine safety and health. Some are historical, such as the Report of the Coal Mine Inspector for the State of Utah, 1897-1916, The Miners Dictionary (1859), and the First Report of the Commissioners on . . . Employment and Condition of Children in Mines . . . (1842). Most treat modern day problems: Radiation Hazards in Mining, Mine Fires: Prevention, Detection, Fighting and Explosives and Rock Blasting. Still others reflect on the government's role: To Punish or Persuade: Enforcement of Coal Mine Safety and Understanding MSHA.

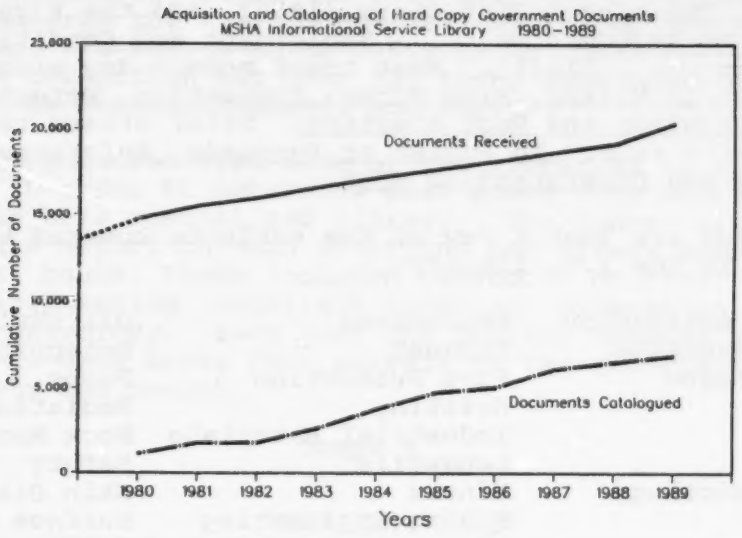
The following are just a few of the subjects covered by books currently in the I.S. library:

Accident Investigation	Explosives	Oil Shale
Accident Prevention	Exhaust	Poisoning
Air Conditioning	Fire Protection	Pumps
Asbestos	Hoisting	Radiation
Blasting	Industrial Materials	Rock Mechanics
Chemicals	Longwalls	Safety
Clinical Toxicology	Miners	Skin Diseases
Conveyors	Mining Engineering	Surface Mining
Cranes	Mining Equipment	Underground
Diesels	Noise	Welding

Hard Copy Documents

"Hard Copy" documents provide the I.S. library with its single most important source for mine health and safety information. The library was off to a good start in this category with the donation of over 13,000 bound, hard copy documents by the U.S. Department of the Interior's Bureau of Mines (B.O.M.). These documents, filed on the shelf by report number, can be readily retrieved through subject and author indexes. They include B.O.M. Bulletins, Information Circulars, Minerals Yearbooks, Miner's Circulars, Open File Reports, Reports of Investigations, Technical Papers, and Technical Progress Reports. The I.S. Library also is on the B.O.M. distribution list for all new releases.

Graph 2



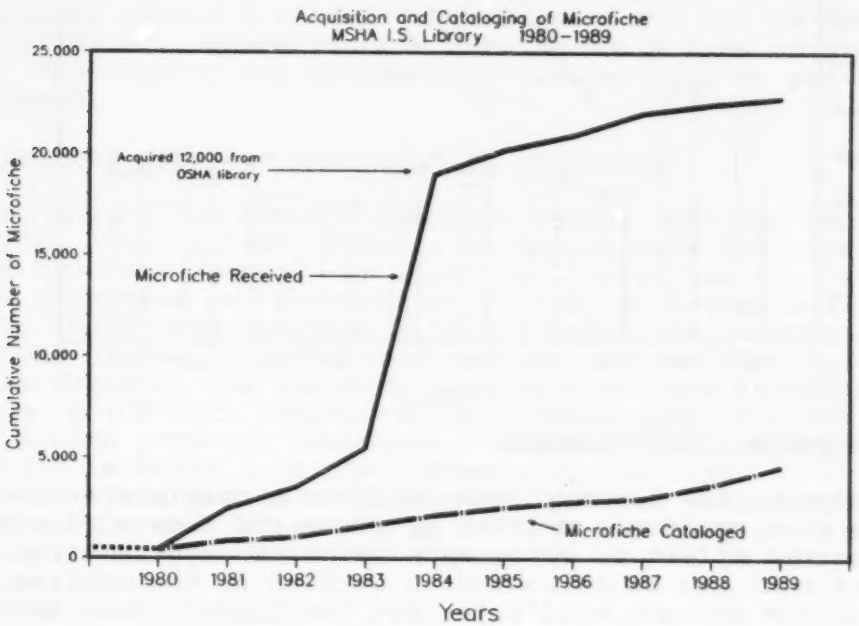
Graph 2 shows that the library's hard copy collection is now over 20,000 documents. Aside from the B.O.M. documents, the remainder come from a variety of sources. Some of these are universities (West Virginia, Pittsburgh, Penn State, Montana State, California, and the Colorado School of Mines), private companies (Dupont, Westinghouse, Goodyear, Union Carbide), research laboratories (Argonne, Pacific Northwest, Sandia, Southern Research Institute), State agencies (Department of Mines in Kentucky, Pennsylvania), Federal agencies (E.P.A., U.S.G.S., O.S.M., OSHA, NIOSH and, of course, MSHA). Documents also come from Federal bureaus (Bureau of Labor Statistics and Bureau of Alcohol, Tobacco and Firearms). There are also a number of documents from the National Safety Council and the Nuclear Regulatory Commission. Canada and South Africa have also provided a number of documents for this collection.

Microfilm Documents

Both books and hard copy documents consume most of the library's physical space but fortunately the advent of microfilm, microfiche, and Laser discs have permitted the acquisition and storage of a tremendous amount of additional information in very small spaces.

As seen in Graph 3, the I.S. library currently has approximately 26,000 documents on microfiche. Over 5,000 of these documents have been cataloged and put on the library computer program. In 1983, the OSHA library in Washington, D.C. donated over 12,000 microfiche documents relevant to safety and health. Through a contract with the Department of Energy, the library receives microfiche of current research in such areas as: explosives, coal safety, and coal mining written from all parts of the world. Another useful source of microfiche documents has been the National Technical Information Service.

Graph 3

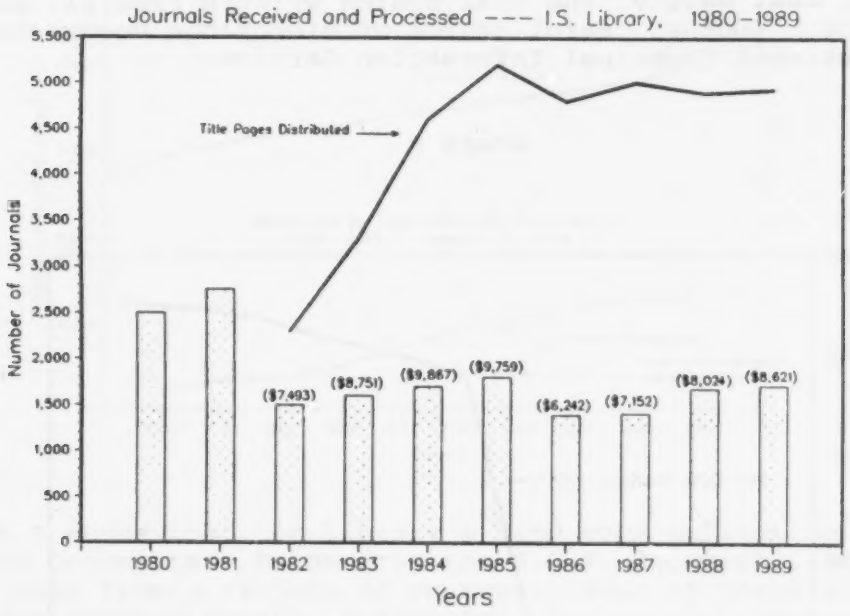


Journals

Journals comprise another portion of the library's holdings, both in hard copy and microfilm. The library currently subscribes to 85 journals. Appendix A lists the current journal holdings. Graph 4 depicts the number of journals received annually from 1980 to 1989. Back issues of some of the important journals also are maintained on microfilm. In 1986, journal subscriptions were evaluated and some subscriptions were dropped. Whereas, other journals have been added which show merit to mining research and technology.

To reduce photocopying expense, only the title pages are produced and sent to interested researchers. They then may indicate to the library if they are interested in a specific article.

Graph 4



Accident Reports (1840-Present)

At present, the library does not have a complete collection of all the mine accidents written by state and federal agencies, but a concerted effort is being made to obtain and catalog all of the reports that can be collected. A portion of the earlier written reports are not available, but the library does have the majority of accident reports written in recent years on microfilm and hard copy. Nearly 10,000 of approximately 13,000 reports are presently cataloged and can be requested from the library. Information from these reports is indexed by the following twelve categories: 1.) Library Identification Number - or shelf placement number; 2.) Mine Identification Number (ID) - the first two numbers of the ID being a state code; 3.) Date the accident occurred; 4.) Work Location - for example whether the accident happened on the surface or underground; 5.) The Accident Classification - for example whether the accident was electrical, haulage, a roof fall, etc; 6.) Degree of Injury - whether the accident was a fatality, possible permanent disability, or how many days of lost work and restricted activity occurred as a result of the accident, etc.;

7.) Nature of Injury - the actual physical injury, whether it was a broken bone, a burn, crushing, etc.; 8.) Equipment Code - The type of equipment involved in the accident; 9.) Specific - for example, brakes, guarding, bursts, or other specific details which give further information about the incident; 10.) Type of Mine - what the mine produces, whether it is coal or a non coal; 11.) Gender - whether the injured person was a male or a female; 12.) Fatal or Nonfatal.

Program Circulars

Program circulars are technical reports written by staff members of the Safety and Health Technology Center at Denver. The information in the program circulars deal with accidents and injuries in the mining industry. The library has over 150 of these reports plus a list and subject index for all of the program circulars. These reports were formerly know as yellow jackets. One copy of any document or listing will be provided upon request.

Manufacturer's Catalogs and Industry Standards

The library has discontinued the vendor catalogs because of high costs. The current industry standards have also been cut back for the same reason. In 1990 the library has the current industry standards of the American Society of Mechanical Engineers (ASME) and American National Standards Institute. The library has copies of industry standards in hard copy and microfilm format. The industry standards are now becoming available on (CD-ROM) Compact discs. These compact discs interface with personal computers. Indexes to the standard information is built into the software of the disc. In the near future, the library will be looking to get the standards in CD-ROM format. The cost of standards is high and they are paid for a year at a time. Appendix B shows examples of how to use the standards index.

Computer Data Bases

Aside from the books, documents, journals, and microfilmed documents physically stored in the library, access to various computer data bases through the use of the library's personal computer and telephone communication is also available. Researchers are provided with a tremendous amount of additional current information through the library computer access.

In this section, the various information-retrieval sources available through the I.S. library will be discussed. The dates in parentheses indicate the time period covered by that particular file.

Lockheed Dialog

The Lockheed Dialog bibliographic computer files contain approximately 350 files on subjects such as science, technology, chemistry, medicine, and engineering. Together, the files contain over 200 million records. The files are updated at least once a month. Those that are of the greatest value to MSHA are the NTIS, NIOSH, Compendex, Geoarchive, Georef, and Standards and Specifications.

The NTIS file (1964 - present) contains 1,410,000 records on government-sponsored research, development, and engineering. Reports prepared by both Federal and State agencies are contained in this file. Computer searches can be performed by either subject, author, or document number (Figure 1, Appendix C).

The NIOSH file (1973 - present) includes 153,000 records and includes 400 journals in the occupational health and safety fields. It serves as a clearinghouse of such information and may be searched by author or subject (Figure 2, Appendix C).

The Compendex file (1970 - present) contains bibliographic, abstracted information on engineering and technology literature found in approximately 4,500 journals, conferences, dissertations, and technical reports world wide. This file is updated monthly and contains approximately 2.5 million records (Figure 3, Appendix C).

The Geoarchive file (1974 - present) indexes over 5,000 journals, books, conferences, dissertations, and technical reports on geology, geochemistry, and minerals. Currently, there are 630,000 records in the file and it is updated monthly (Figure 4, Appendix C).

The Georef file (1785 - present) contains an index of over 4,500 journals and other sources of information world wide on geology, seismology, geochemistry, geophysics, and mineralogy. With monthly updates, this file contains approximately 1.5 million records (Figure 5, Appendix C).

The Standards and Specifications file (1950 - present) contains all Government and industry standards, specifications, and related documents. Updated monthly, it contains 119,000 records. (Figure 6, Appendix C).

Department of Energy (1974 - present)

Two files of primary interest to MSHA researchers are the ITIS bibliographic literature file and the ongoing research file. A researcher, using the latter file, for example, may designate a specific subject field of interest and would be provided a list of those individuals throughout the world currently doing research on that subject (Figure 7, Appendix C). The ITIS file contains approximately 4 million records.

National Library of Medicine (NLM)

The National Library of Medicine (NLM) has a number of important files available through the I.S. library for MSHA researchers:

AVILINE is the NLM's online audiovisual catalog about 20,429 motion pictures, videocassettes, slide/cassettes, and filmstrip/cassettes produced by over 500 distributors on a variety of health subjects ranging from anatomy to veterinary medicine (Figure 8, Appendix C). Information on the file includes a bibliographic listing, abstracts, and loan information.

CANCERLIT (1976 - present) contains approximately 700,000 entries on cancer information from 3,500 biomedical and scientific journals. Searching is performed by subject or combinations of subjects (Figure 9, Appendix C).

CANCERPROJ contains 7,000 entries on current cancer research projects in many countries. This file also may be searched by subject or combinations of subjects (Figure 10, Appendix C).

CHEMLINE is an online, interactive dictionary containing information on 1 million chemical substance names and 907,805 unique substances (Figure 11, Appendix C).

HSDB (Hazardous Substance Data Bank) contains a variety of information on 4,200 chemicals, gases, and other hazardous materials. Each entry provides information on substance identification, manufacturing information, chemical and physical properties, safety and handling, toxicity and biomedical effects, pharmacology, environmental exposure, potential standards and regulations, monitors, analysis and literature references (Figure 12, Appendix C.)

IRIS (Integrated Risk Information System) This is a new file containing 398 records from NLM, and became available in March 1990. The file contains EPA (Environmental Protection Agency) health risk assessment and regulatory data. It is organized by chemical and contains one record for each unique chemical.

MEDLINE (1966 - present) is the largest of all NLM files, with over 7 and one quarter million records. This file indexes journals, conferences, books, and technical reports on a variety of subjects including occupational safety and health, hazardous chemicals and gases, diseases, accident prevention, and medical research (Figure 13, Appendix C).

RTECS (Registry of Toxic Effects of Chemical Substances) contains toxicity information, the specific toxicological effects and the source of such information on 102,941 substances. (Figure 14, Appendix C).

SERLINE (Serials or Journals Online) is designed to help interlibrary activities by providing a list of libraries in the United States that have a needed journal. This file contains over 74,000 records. (Figure 15, Appendix C).

TOXLINE (Toxicology Information Online (1965 - Present) contains approximately three million citations and abstracts on human and animal toxicity studies, the effects of environmental chemicals and pollutants, adverse drug reactions, and analytical methods. (Figure 17, Appendix C).

Corps of Engineers

Corps of Engineers files were acquired to provide MSHA with information on the technical reports prepared by the Corps on such subjects as dams, impoundments, construction, and earthmoving and construction equipment. (Figure 18 Appendix C).

OSHA Computerized Information System (OCIS)

This OSHA computer system has 12 computer files on various chemicals and hazards. There is also a computer catalog for all of the libraries in OSHA. The data from this computerized information system have provided MSHA researchers with a lot of good information. The MSHA library staff does the searching on the system and then sends out the retrieved information to the requestors.

Online Computer Library Center (OCLC)

This file provides a direct computer link with over 11,220 libraries in the United States. Interlibrary loans can be initiated and ordered through this computer system. The file is used in conjunction with the data bases mentioned above. When a particular journal, book, or article is determined to be of interest to a researcher, the OCLC file is used to determine the closest source of the document and the loan process then may begin via the computer terminal. If the document is already loaned out from the first library listed, the program will proceed to the second, and so on. The process enables MSHA researchers to have access to material not available in the I.S. Library. (Figure 19, Appendix C).

MSHA Library Computer Program

Lastly, the MSHA I.S. Library has its own computerized data base. It provides a list of over 1,000 subjects on the library's file pertaining to safety and health. At the present time, this library data base contains hard-copy documents, microfiche documents, books, and the Library journal holdings. In the future, other library materials will be added.

In the MSHA library system, each publication is identified by a publication number or PUBNO assigned by the librarian. The publication computer record consists of the title, authors, document identifying numbers, date of publication, and subjects. Publication subjects are determined by the librarian. The MSHA library system also contains three catalogs or indexes by author, document identification number, and subject. It also contains an abbreviation-valid subject list which permits some abbreviations for subjects to be used instead of a full name.

Publications in the MSHA library computer system can be obtained by contacting the MSHA librarian. Materials found in a search of the MSHA library holdings may be requested in writing, by telephone, or by including delivery instructions sent to the librarian through the library Query Print Command.

The primary objective of this interactive Query is to provide a fast method of identifying and locating publications in the MSHA library. The user can:

- Search the library for publications based on any combination of author, document number, or subject, using any connector ("or," "and," or "not").

- Repeatedly inspect the result of searches in a wide variety of combinations.

- Inspect the author, document number, or subject indexes as an aid in formulating searches.

- Print the indexes or the result of searches off-line on a high-speed printer, or Xerox multiple copies.

Some of the features of this Query are:

- Conversational type and style command--simple enough for the casual or occasional user but capable of complex searches. Only minimal typing is needed.

- User-friendly--very tolerant of user errors. Errors are self-correcting when possible.

- Accessible from any location with an interactive terminal, modem, or telephone.

Appendix D provides a sample output and explanations of the elements.

MSHA offices, other government agencies, or colleges and universities can obtain free copies of the materials in the library computer file on request. Other organizations will be charged per page plus a minimum of amount per hour for copied materials from this computer file.

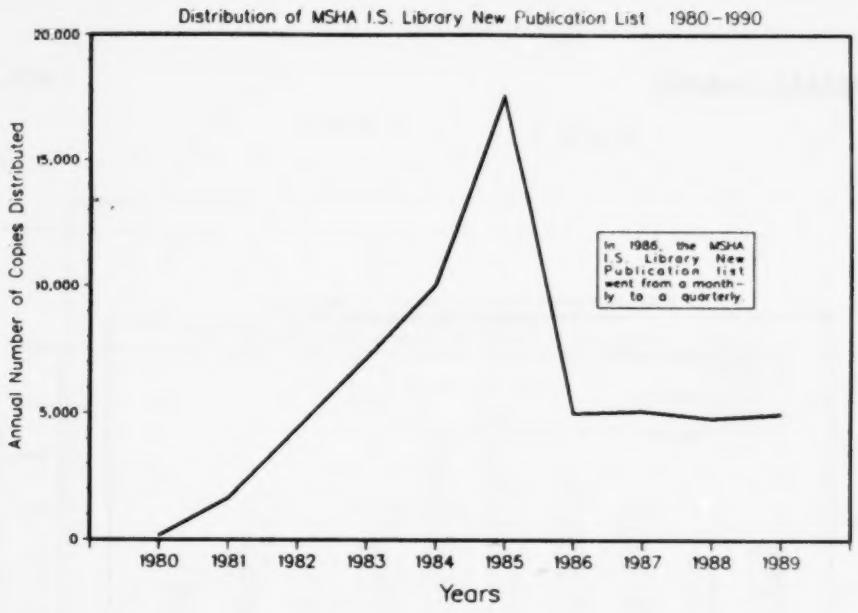
A number of MSHA offices have been trained on this program. This enables them to connect into the library computer program and search the cataloged library materials. MSHA personnel have expressed appreciation for the possibility to search this library computer system in their own offices.

The MSHA library computer program now has over 13,000 cataloged items. MSHA is now going through the planning stage to have a large computer system for a number of activities. The library computer program is scheduled to be a part of this and every MSHA office would be able to retrieve information from this valuable research tool.

Library Publicity

A library is of little value unless people are made aware of its existence and what it has to offer. Six articles have been published in the MSHA Messenger (Appendix E). These articles have explained to MSHA personnel the library services that are available. Training and discussions on the library's facilities have been given on many occasions. In addition, the library puts out Quarterly listings of publications and bibliographies that are available. (Appendix F).

Graph 5



Graph 5 shows that the new publication list began to take hold in 1981. At that time, less than 100 copies were circulated each month. Because of considerable interest, the list was expanded to include every supervisor at each MSHA office. In 1985, the list was expanded to include some private organizations and companies. Over 1,240 copies of each new publication list are now distributed each time it is published. In 1986 there was a drop in the number of copies distributed because the new publication list changed from a monthly, twelve times a year, to a quarterly, four times a year. This was done to save time and money.

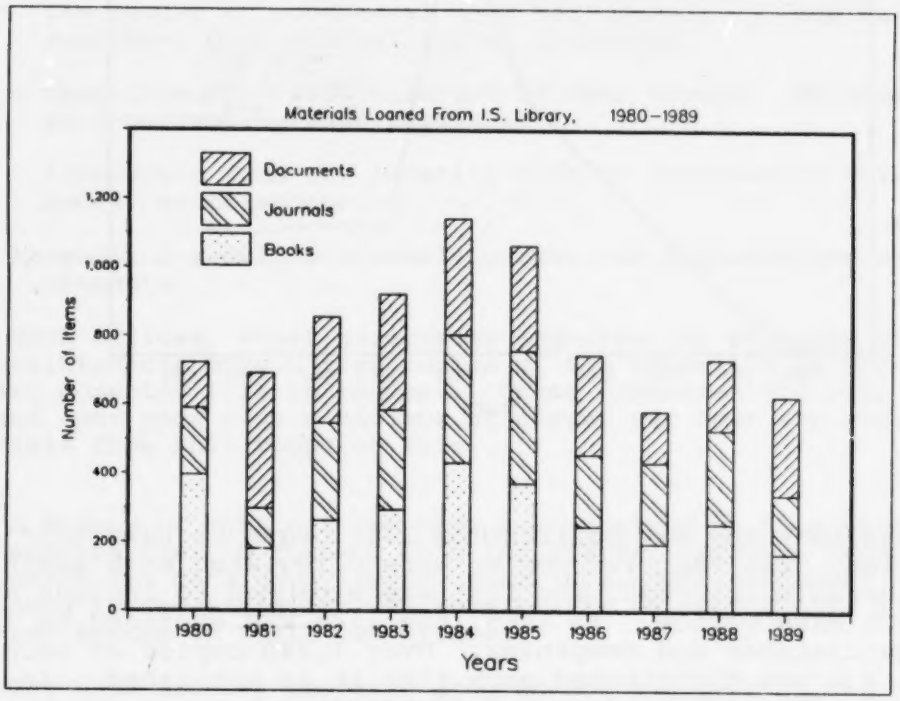
The REAP Program

On April 2, 1984, the then Secretary of Labor Raymond Donovan announced the start of the Roof Evaluation and Accident Prevention (REAP) program, and the Denver I.S. library was asked to research information on roof control. The library provided lists of documents on roof control that went out through the REAP program to the coal operators. As a result of the lists, a number of requests were received and information was sent out. The library no longer makes up lists of roof control documents. However, subject lists of documents are requested and sent out. Currently there are 501 documents in the I.S. Library on roof control.

Library Usage

Materials Loaned

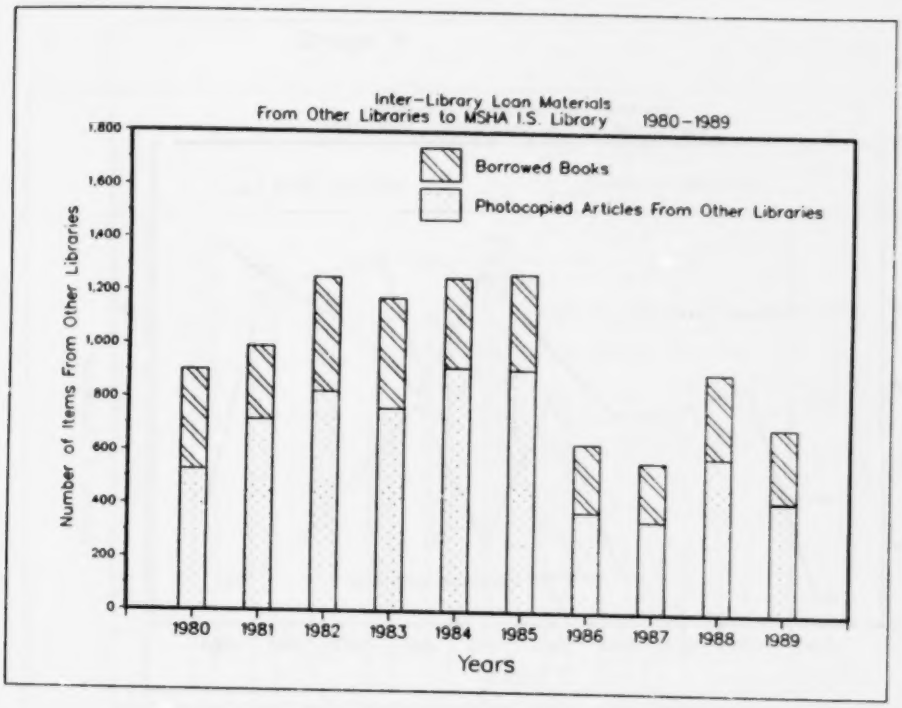
Graph 6



Graph 6 shows the number of books, journals, and hard copy documents loaned from the library from 1980-1989. Approximately 250 copies of journals, 270 documents, and 260 books are loaned out annually from the library.

Inter-Library Loan

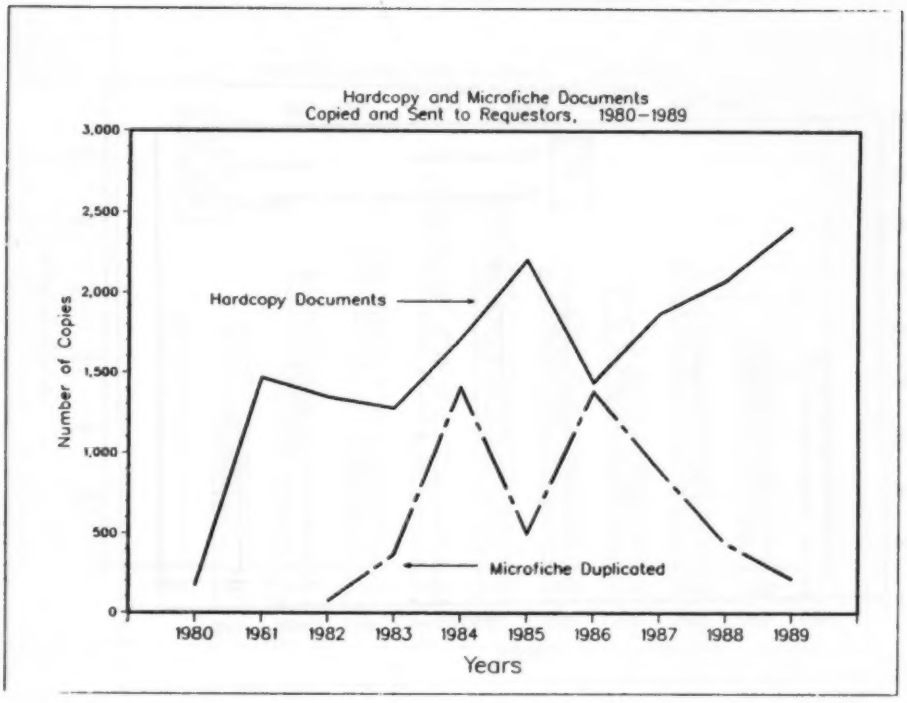
Graph 7



As stated earlier, the Online Computer Library Center provides access to material not available in the I.S. Library. Graph 7 shows how much this service has been used by MSHA researchers. Over the last ten years, an average of over 945 transactions have been made annually with other libraries for MSHA research activities.

Documents Copied

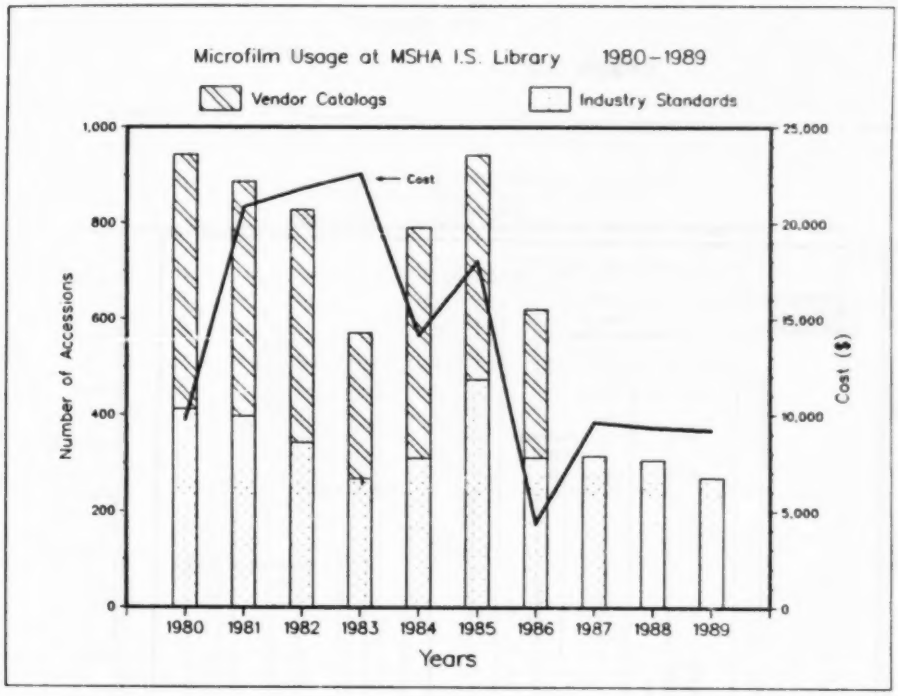
Graph 8



In addition to loaning material, the I.S. Library also duplicates both hard copy and microfiche material for requestors. As may be seen in Graph 8, the library began this service in 1980 when it provided MSHA personnel 150 copies of various documents. In 1985, this number reached 2,200 documents annually. Duplication of microfiche began in 1982 with about 50 and peaked in 1984 with over 1,400 copies. Microfiche demand is closely tied to its ability to be catalogued and its subsequent inclusions in the new publication lists. Microfiche and hardcopy documents are now made for MSHA and outside of MSHA requestors. For those Requestors that are not government agencies or associated with schools, there is a per page charge to copy the materials requested.

Vendor Catalog and Industry Standard Usage

Graph 9

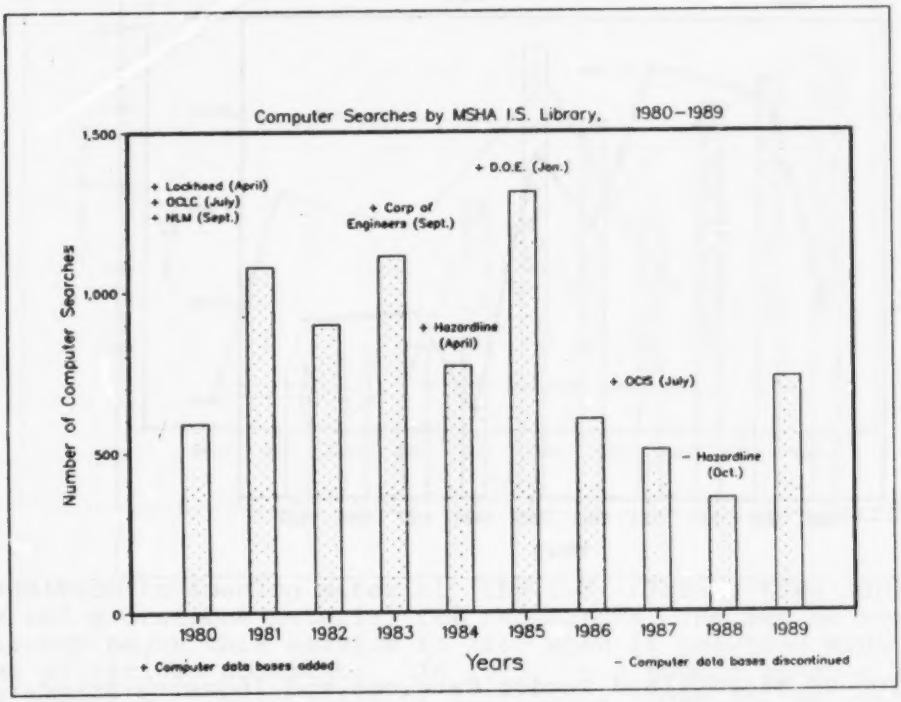


The acquisition of microfilmed vendor catalogs and Industry Standards has been put to good and frequent use, as illustrated in Graph 9. In 1985, these sources of information were used on over 900 occasions in support of MSHA researchers. There is a yearly subscription fee to keep the microfilm documents and have them updated. It was determined that having this service provided by a private company would be more cost-effective than trying to obtain, store, catalog, and update each manufacturer's catalog and each Industry Standard. A second company began offering similar

service in 1983 and the library was then able to cut costs by going with the lower bidder. In 1987 one company was able to buy out the other and the vendor catalog microfilm file doubled in cost. Because of the higher prices, the vendor catalog system was dropped. We now only have Industry Standards on microfilm. In the future, the library will be looking at getting the Standards on Laser disc, eliminating the need for the microfilm copy.

Computer Searches and Costs

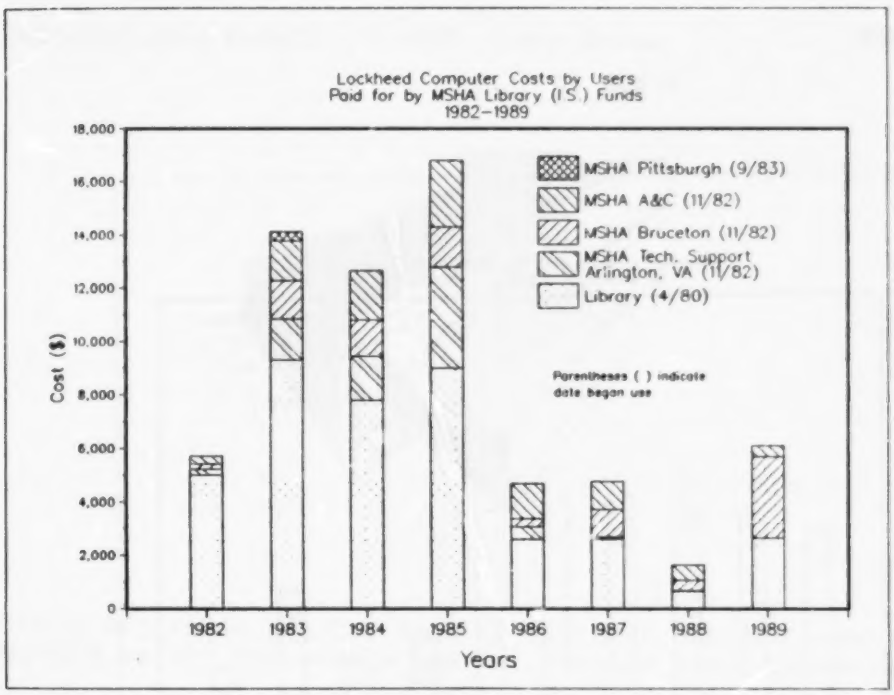
Graph 10



As seen in Graph 10, the various computer data bases mentioned earlier have experienced considerable use by the I.S. Library for MSHA researchers. In 1985, the various data bases were accessed over 1,300 times. The graph

also indicates the month and year the various data bases were acquired by the library. The Hazardline computer file was dropped in 1988 as we now have the same information on a CD-ROM Laser disc. Over the past ten years the library averaged 788 searches per year. The library also has the responsibility to oversee the usage of lockheed in four other MSHA locations.

Graph 11

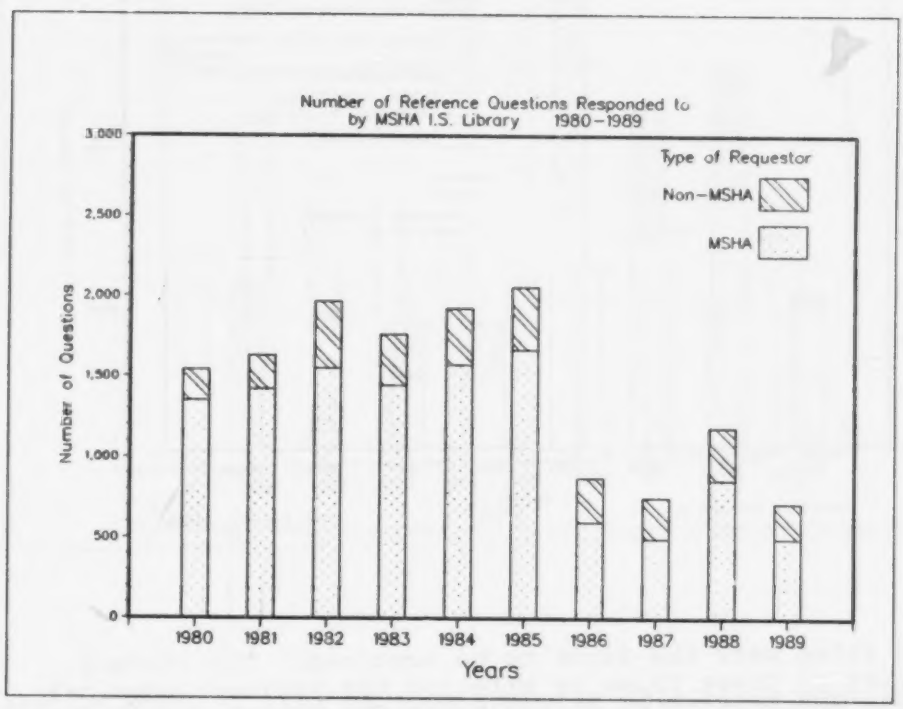


The Lockheed Files were the first to be acquired. The library extended the utility of these files by offering the various Technical Support Centers the opportunity to access these files without cost. The Approval and Certification Center, Bruceton, and Arlington all began using

the files in November of 1982 and only slightly affected the direct cost to the I.S. library for this service. BY 1985, however, the use of this service has resulted in a tripling of cost; now over half of the usage has come from the Technical Support Centers outside of Denver.

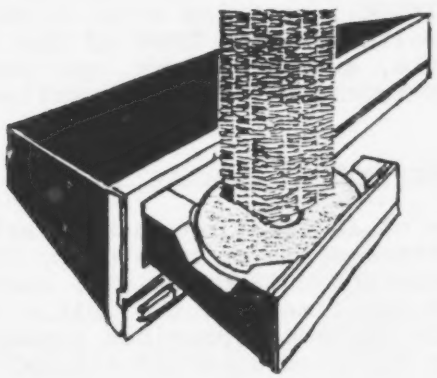
Reference Questions

Graph 12



Graph 12 shows that the Denver I.S. Library responds to a considerable number of requests each year. In 1985 alone, the library responded to over 2,000 separate requests for information. The library is primarily intended for use by MSHA personnel. However, the library has gradually "opened its doors" to researchers from other Government agencies, industry, schools, and various organizations. The proportion of non-MSHA requests also is shown in this graph.

Compact Disc-Read only Memory (CD-ROM) Laser Disks



One fourth and three quarter inch CD-ROM Disc has the same information storage capacity as 297,000 double spaced, regular sized pages of manuscript.

The MSHA I.S. Library has seven CD-ROM discs with various types of information. The majority of the discs, material safety data sheets (MSDS); Canadian Center for Occupational Health and Safety (CCINFO); and POISON INDEX, have chemical, hazardous, and occupational safety and health information. One of the many search capabilities from the discs pertains to the identification of chemicals. Searches can be done on the color of

smoke, the smell of the substance, or other physical properties. After the chemical is identified, information can be retrieved from the discs that will tell what effects the various chemicals will have on the human body. Information can also be obtained concerning the types of protective clothing and equipment to be worn when handling hazardous substance. Those in MSHA who work with chemicals need (MSDS) at the work site.

Electronic Encyclopedia

The twenty volume electronic encyclopedia on one CD-ROM disc is in the library collection. There are 9 million words and 30,000 entries in the electronic encyclopedia. If the whole encyclopedia were printed there would be 10,000 pages, and this would require two feet of shelf space. There is a second part of the disc which is an index. The index gives easy access to the rest of the information. The data from this electronic encyclopedia can be printed and sent to those needing the information.

Occupational Safety and Health on CD-ROM (OSH-ROM)

This laser disc contains 3 bibliographic files. The National Institute for Occupational Safety and Health (NIOSTIC) contains over 150,000 references to workplace health and safety literature. The Health and Safety Executive of England (HSELINE) contains over 30,000 references to key literature on safety and health at work. The International Occupational Safety and Health database, (CISDOC), contains over 30,000 references to key literature on safety and health at work. Most of the Bibliographic citations on this disc have title, author, source, and abstract. The laser disc also has an index for easy retrieval. The information can be printed and sent to requestors.

Earth Science Data Directory - USGS Library -(ESDD)

This disc is a compilation of information in the earth sciences and natural resources. There are three files on this disc. The USGS Library consists of bibliographic records for USGS materials. Geoindex is a bibliographic compilation of geologic maps of the United States and its territories. Earth Science Data Directory provides access to a central repository of information about earth science and natural resources.

Energy Database

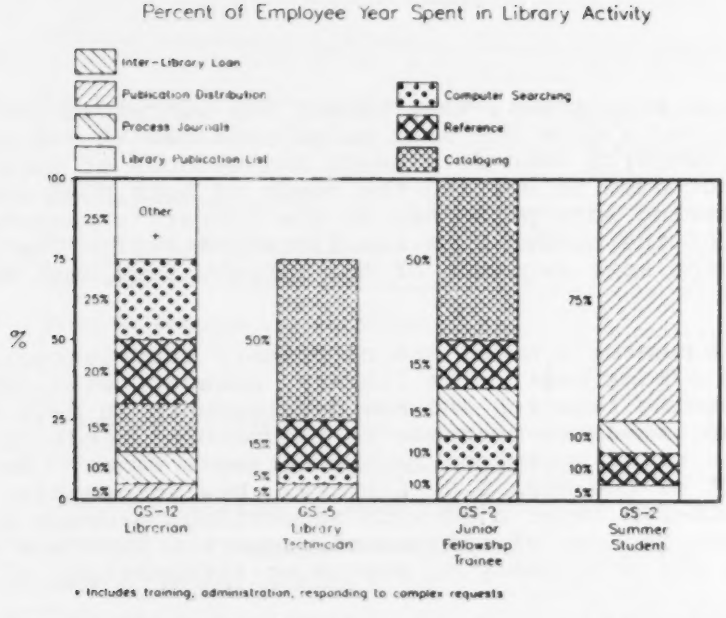
This disc contains the card catalog of the Department of Energy library. It has books, journals, audiovisual material maps and data files. Most of the publications in this file are written in the twentieth century, but there are also publications written prior to 1900.

Library Management and Staff

There are a variety of tasks to be performed in order to maintain a smoothly operating library. These include selecting and ordering new material, processing, cataloging, and storage of this material, and responding to a multitude of requests by the most efficient means possible. Managing, supervising, budgeting, training, and publicity demand considerable knowledge and skill beyond merely the principles of librarianship.

One of the critical aspects of the operation of the Denver I.S. Library is having the personnel to perform the required tasks.

Graph 13



Graph 13 shows the distribution of library activities performed by several employees in the I.S. Library in terms of man-years during its peak in the summer of 1989. At this time, the full-time librarian was assisted

by a GS-5 three fourths time, and a GS-2 full time Junior fellowship student for the summer.

At the present time, the librarian and a part time library Technician are left to manage and conduct the daily business of the library. Aside from a summer student for 2 to 3 months, the library can only look forward to occasional hiring of disadvantaged persons under the Job Training Partnership Act (J.T.P.A.) program. In these instances, an individual is hired for 1 to 3 months; barely enough time to train the person to the various library tasks. These hirings of short duration do contribute somewhat, although it demands more supervision time from the librarian.

Perhaps the area of biggest concern is the task of cataloging incoming material. As can be seen in Graph 1, the cataloging of books as they are received has been very well accomplished. However, hard copy documents (Graph 2) and microfiche material (Graph 3) are seriously deficient. There are approximately 45,000 documents in the library buy only about 43% of them have been cataloged. For each document received, the title, author's name, date of publication, document number, and subject fields are keyed into the computer. There is an estimated six man-years of work to catalog the data already in the library, and the number of documents increases each day. Without being able to identify the material on hand, the library is not able to provide MSHA researchers with a comprehensive picture of the resources available. This is the most critical problem facing the library today.

Outlook

As discussed in this paper, the library was conceived out of a real need for a centralized source for mine safety and health information. Through extensive research into data needs and methods of data acquisition, the library has succeeded in meeting the needs of both MSHA and non-MSHA researchers. Educating more personnel to the library's computer program will relieve some of the burden from the library itself. The increased publicity will prompt more requests of the library from both MSHA and private industry.

Because the requestor's needs are of primary importance, internal library tasks take a back seat. The library, however, will continue to stay abreast of ongoing research and new developments in data retrieval to assure accurate and immediate response to requestors' needs by sharing their concern for a safer workplace in the Nation's mines. Management has given great support of the MSHA I.S. Library. New information systems retrieval such as CD-ROM laser disc with supporting hardware have been added to the library because of management support. This new retrieval technology adds to the efficiency of providing information.

APPENDIX A (continued)

ARCHIEVES OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY ----V.07;3,4(1978)
V.08;1,3(1979)
F V.10(81)-V.17(88)

ARCHIVES OF ENVIRONMENTAL HEALTH ----------F V.01(60)-V.37(82)
V.38(83)-V.40(85)

ARCHIVES OF INDUSTRAIL HEALTH ----------F V.01(50)-V.21(60)

AUSTRALIAN COAL MINER ----------V.05(83)-V.09(87)

AUSTRALIAN INSTITUTE OF MINING AND METALLURGY PROCEEDINGS ----------1982-1986

AUSTRALIAN MINING ----------F V.67(75)-V.80(88)
V.81(89)-V.82(90)

BRISTISH JOURNAL OF INDUSTRIAL MEDICINE -----F V.28(77)-V.45(88)
V.46(89)-V.47(90)

BULK SOLIDS HANDLING ----------V.01;3(1981)
V.03(83)-V.09(89)

BYTE ----------CURRENT YEAR ONLY

CANADIAN GEOTECHNICAL JOURNAL ----------V.19(82)-V.27(90)

CANADIAN MINING JOURNAL ----------F V.81(60)-V.102(81)
V.103(82)-V.111(90)

CHAMBER OF MINES JOURNAL ----------V.24(82)-V.32(90)

CHEMICAL ENGINEERING ----------F V.77(70)-V.85(78)
V.95(88)-V.97(90)

CIM BULLETIN ----------V.75(82)-V.83(90)

COAL ----------F V.25(1988)
V.26(89)-V.27(90)

COAL AGE ----------F V.72(67)-V.93(88)

COAL MINING AND PROCESSING ----------F V.08(71)-V.21(84)

COAL MINING ----------F V.21(84)-V.25(88)

COLLIERY GUARDIAN ----------F V.223(75)-
V.232(84)
V.233(85)-
V.238(90)

COMBUSTION AND FLAME ----------V.55(84)-V.63(86)

COMBUSTION SCIENCE AND TECHNOLOGY ----------V.29(82)-V.46(86)

COMBUSTION,EXPLOSION AND SHOCK WAVES --------V.18(82)-V.21(85)

COMMODITY DATA SUMMARIES ----------1974-1977

EARTH AND MINERAL SCIENCE ----------V.50;4-6(1981)
V.51(81)-V.59(90)

EARTH SCIENCE REVIEWS ----------V.13(77)-V.17(81)

ELECTRICAL CONSTRUCTION AND MAINTENANCE -----V.77;9(1978)
V.78;6,9(1979)
V.79;1-3,6,10(80)
V.80;4-8(1981)
V.81(82)-V.89(90)

APPENDIX A
MSHA I.S. JOURNAL HOLDINGS

("F" signifies microfilm journal holdings)

JOURNAL TITLE	HOLDINGS
ACCIDENT ANALYSIS AND PREVENTION	V.09(77)-V.22(90)
ACCIDENT FACTS	1978-1989
ACCIDENT STATISTICS	1977,1979,1981
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION JOURNAL	F V.11(50)-V.49-(88) V.50(89)-V.51(90)
AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS	1982-1985
AMERICAN SOCIETY OF CIVIL ENGINEERS (GEOTECHNICAL JOURNAL)	V.102(1976) V.106;1-8(1980) V.105;7-12(1979) V.108(82)-V.116(90)
AMERICAN SOCIETY OF CIVIL ENGINEERS (HYDRAULICS JOURNAL)	V.102(1976) V.104;5-7(1978) V.108(82)-V.116(90)
AMERICAN SOCIETY OF CIVIL ENGINEERS (SOIL MECHANICS AND FOUNTAIN DIVISION)	V.88;3-6(1962) V.90;1-5(1964) V.92;1,3-6(1966) V.94(1968) V.97;1-9(1971) V.89;1,3-6(1963) V.91(1965) V.93;1,3,5,6(1967) V.95(69)-V.96(70) V.98;4(1972)
AMERICAN SOCIETY OF CIVIL ENGINEERS (STRUCTURAL DIVISION)	V.105;7-12(1979) V.106;1-8(1980)
ANALYTICAL CHEMISTRY	F V.42(70)-V.60(88) V.61(89)-V.62(90)
ANNALS OF MATHEMATICAL STATISTICS	V.32(61)-V.34(63) V.35;3,4(1964) V.36;1,4,5,6(1965) V.37(66)-V.38(67) V.41(70)-V.43(72)
ANNALS OF OCCUPATIONAL HYGIENE	F V.08(65)-V.27(83) V.25(82)-V.28(85)
ANNALS OF PROBABILITY	V.01(1973) V.02;1,2(1964) V.03(75)-V.09(81) V.10;1,2,4(1982) V.11(83)-V.13(90)
ANNALS OF STATISTICS	V.01(1973) V.02;1-3(1964) V.03(75)-V.09(81)

APPENDIX A (Continued)

ENGINEERING AND MINING JOURNAL ----------F V.171(70)-
V.189(88)
V.190(89)-V.191(90)

ENGINEERING NEWS RECORD ----------CURRENT YEAR ONLY

EXPLOSIVES ENGINEERING ----------V.1(87)-V.3(90)

EXPLOSION AND EXPLOSIVES ----------V.32(71)-V.35(74)
V.37(76)-V.41(80)
(401,846)

FEDERAL REGISTER ----------CURRENT YEAR ONLY

FIRE TECHNOLOGY ----------V.13(77) -V.21(85)

GEOTECHNICAL FABRICS REPORT ----------V.1(83)-V.8(90)

GEOTECHNIQUE (BRITISH) ----------V.32(82)40(90)

GLUCKAUF ----------V.118;4,18(1982)
V.119;1,3-6,8-11(83)
V.119;13-24(1983)
V.121(1985)-V.125(89

HAZARD PREVENTION ----------V.22(86)-V.26(90)

HEALTH PHYSICS ----------F V.18(70)-V.55(88)
V.56(89)-V.57(90)

HEATING PIPING/AIR CONDITIONING ----------F V.47(75)-V.59(88)
V.60(89)-V.61(90)

HIGHWAY AND HEAVY CONSTRUCTION ----------F V.119(76)-
V.131(88)

HSL ABSTRACTS ----------1982-1990

HUMAN FACTORS ----------V.20(78)-V.27(85)

IAEA BULLETIN ----------V.31(89)-V.40(90)

INDUSTRIAL RESEARCH DEVELOPMENT ----------V.20;3,4,11(1978)
(SEE RESEARCH AND DEVELOPMENT) V.21;2-9,11,12(1979)
V.22;01,3,5-7(1980)
V.22;10,11(1980)
V.23(81)-V.25(83)

INDUSTRAIL SAFETY ----------1982-1984

INTERFACES ----------V.06(75)-V.11(81)

INTERNATIONAL JOURNAL OF MINERAL PROCESSING -V.04(77)-V.09(82)

INTERNATIONAL JORNAL OF MINE WATER ----------V.6(87)-V.10(90)

INTERNATIONAL JOURNAL OF MINING ENGINEERING -V.02(84)-V.08(90)

INTERNATIONAL JOURNAL OF SURFACE MINING -----V.3(89)-V.4(90)

INTERNATIONAL JOURNAL OF ROCK MECHANICS -----V.12(75)-V.27(90)
AND MINING SCIENCES

INTERNATIONAL MINE COMPUTING ----------V.2(86)-V.7(90)

APPENDIX 7 (Continued)

INTERNATIONAL MINING ----------V.4(87)-V.7(90)

JOB SAFETY AND HEALTH MAGAZINE ----------V.03;7-10(1975)
V.04;2,3,5-12(1976)
V.05;1-3,5-12(1977)
V.06;1,2,4-8(1978)

JOURANL OF BUSINESS AND ECONOMIC STATISTICS -V.01(83)-V.08(90)

JOURNAL OF EXPLOSIVES ENGINEERING ----------V.01(83)-V.07(90)

JOURNAL OF MINES METALS AND FUELS ----------V.30(82)-V.37(90)

JOURNAL OF OCCUPATIONAL MEDICINE ----------V.20(1978)
V.21;1,3,4,7-12(79)
V.22;1-3,6-12(1980)
V.23;1-7,9-11(1981)
V.24;2-10(1982)
V.25(83)-V.32(90)

JOURNAL OF RADIOLOGICAL PROTECTION ----------V.4(84)-V.10(90)

JOURNAL OF SAFETY RESEARCH ----------V.11;2-4(1979)
V.12;1-3(1980)

JOURNAL OF THE ACOUSTICAL ---------- V.49(71)-V.53(73)
SOCIETY OF AMERICA V.61;2,5,6(1977)
V.62;1-6(1977)
V.63;3(1978)

JOURNAL OF THE MINE VENTILATION SOCIETY -----V.01(48)-V.43(90)
OF SOUTH AFRICA

JOURNAL OF THE SOUTH AFRICAN INSTITUTE OF -- F V.75(75)-V.86(86)
MINING AND METALLURGY V.87(87)-V.90(90)

MESA MINER ----------V.01;1,3(1974)
V.02;1,2(1975)

MESA THE MAGAZINE OF MINING HEALTH AND ------V.01;1-6(1976)
SAFETY V.02;1,2(1975)

MESSENGER ----------1975-1990

MINE AND QUARRY ----------F V.04(75)-V.13(84)
V.14(85)-V.14(90)

MINE REGULATION REPORTER ----------V.1(89)-V.3(90)

MINE SAFETY AND HEALTH ----------V.03(78)-V.10(85)

MINERAL COMMODITY PROFILES ----------ALUMINUM-ZINC

MINERAL COMMODITY SUMMARIES ----------1979-1985

MINERALS AND MATERIALS ----------1976-1985

MINES MAGAZINE ----------V.67;10(1977)
V.68;2,3,5-10(1978)
V.69(1979)
V.70;1,3,5,7-10(80)
V.71;1-6(1981)
V.72(82)-V.80(90)

APPENDIX A (continued)

MINING AND METALLURGY QUARTERLY ----------2-4(1969)
1-3(1970)
1-3(1971)

MINING CONGRESS JOURNAL ----------F V.61(75)-V.73(87)
V.74(88)-V.43(90)

MINING ENGINEER ----------V.139;219(1979)
V.141(82)-V. (90)

MINING ENGINERRING ----------F V.22(70)-V.40(87)
V.41(88)-V.43(90)

MINING EQUIPMENT INTERNATIONAL ----------F V.07(1983)
(SEE WORLD MINING EQUIPMENT)

MINING JOURNAL ----------F V.278(72)-
V.311(88)
V.312(89)-V.313(90)

MINING MAGAZINE ----------F V.126(72)-
V.127(72)
V.130;1,2(1974)
V.132;1-4(1975)
V.136(1977)
V.138;1-5(1978)
V.139;3-6(1978)
V.140(79)-V.141(80)
V.142;4,5(1980)
V.143;4-6(1980)
V.144;2-6(1981)
V.145(1981)
F V.146(82)-
V.159(88)
V.148(83)-V.150(84)
V.160(89)-V.161(90)

MINING RESEARCH REVIEW ----------FEB(1980)
SEPT(1978)
(401,721)

MINING SCIENCE AND TECHNOLOGY ----------V.01(84)-V.10(90)

MINING TECHNOLOGY ----------V.64(82)-V.67(85)

MINING WORLD NEWS ----------V.1(89)-V.2(90)

MONTHLY LABOR REVIEW ----------V.94;1,2,4,8-12(71)
V.95;1-8,10-12(72)
V.100;1,7,9,11(77)
V.101;1,3,7-11(78)
V.102;2,3,6-9(79)
V.102;11,12(79)
V.103;1-11(80)
V.104;3-7,9-12(81)
V.105;1-4,6,8-
12(82)
V.106(83)-V.113(90)

NATIONAL SAFETY NEWS ----------F V.111(75)-
(SEE SAFETY AND HEALTH) V.134(86)

NOISE AND VIBRATION CONTROL ----------V.13(82)-V.21(90)

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NOISE CONTROL ENGINEERING ----------V.08;1-3(1977)
V.09;2,3(1977)
V.10;1,3(1978)
V.11;2(1978)
V.12;2(1978)
V.13;2(1979)
V.14;1-3(1980)
V.18(82)-V.34(90)

OCCUPATIONAL HAZARDS ----------F V.33(71)-V.50(88)
V.51(89)-V.52(90)

OCCUPATIONAL HEALTH AND INDUSTRAIL MEDICINE -V.03(73)-V.07(77)
V.08;1(1978)

OCCUPATIONAL HEALTH AND SAFETY ----------F V.45(76)-V.54(85)
V.55(86)-V.60(90)

OCCUPATIONAL SAFETY AND HEALTH (ENGLAND) ----1982-1990

PIT AND QUARRY ----------F V.63(70)-V.75(83)
V.76(83)-V.83(90)

PROFESSIONAL SAFETY ----------F V.20(75)-V.33(88)
V.34(89)-V.35(90)

PROTECTION ----------V.17(80)-V.19(82)
(SEE THE SAFETY PRACTITIONER)

QUEENSLAND GOVERNMENT MINING JOURNAL --------V.85(1984)-
V.91(1990)

REPORT OF THE COAL MINE INSPECTOR FOR THE ---1897-1916
STATE OF UTAH

RESEARCH ----------PB 256 108
SP 3 76
1971,1972,1975
1977-1984
(401,729)

RESEARCH AND DEVELOPMENT ----------CURRENT YEAR ONLY

ROCK PRODUCTS ----------F V.73(70)-V.91(88)
V.92(89)-V.93(90)

SAFETY AND HEALTH ----------F V.135(87)-
V.136(88)
V.137(89)-V.138(90)

SAFETY AND HEALTH PRACTITIONER ----------V.01(83)-V.08(90)

SCIENIFIC AMERICAN ----------V.236;1-3,5,6(1977)
V.237;3,5,6(1977)
V.238;1,2,4-6(1978)
V.239;1,3(1979)
V.240(1980)
V.247(82)-V.263(90)

SKILLINGS MINING REVIEW ----------1982-1990

APPENDIX A (Continued)

SOUND AND VIBRATION ----------F V.05(71)-V.22(88)
V.23(89)-V.24(90)

SOVIET MINING SCIENCE ----------F 1965-1969
V.14;3-5(1978)
V.15;1(1979)

SOUTH AFRICAN MINING COAL,GOLD AND BASE MINERALS -----1990

SOUTH AFRICAN MINING WORLD ----------V.08(1989)-
V.9(1990)

STATUS OF THE MINERAL INDUSTRY ----------1976-1979

STAUB REINHALTUNG DE LUFT ----------V.26;1-4(1966)
V.28;5,6(1968)
V.29;1-3,5-9,11(69)
V.30;5-9(1970)
V.31;1-7,10-
12(1971)
V.32;1-5,7-11(1972)
V.33;1,2,4-12(1973)
V.34(1974)

SUMMARY OF MINERAL INDUSTRY ACTIVITIES IN COLORADO ----------1970-1980

TECHNOMETRICS ----------V.07;1-3(1965)
V.09(67)-V.32(90)

TUNNELS AND TUNNELING ----------F V.11(79)-V.20(88)
V.21(89)-V.22(90)

U.S. COAL PRODUCTION BY COMAPNY ----------1972,1975,1978
1980-1983

UNDERGROUND SPACE ----------V.02(77)-V.05(81)
V.06;1,2(1981)

WESTERN MINER ----------V.47;4,10(1974)
V.48;4,10(1975)
V.49;4,6-12(1977)
V.51;1-7,10-
12(1978)
V.55(82)-V.58(85)

WORKING ENVIRONMENT (SWEDISH) ----------1977-1985

WORLD COAL ----------F V.02(76)-V.09(83)
(SEE WORLD MINING EQUIPMENT)

WORLD DREDGING ----------V.15;1-3,5-12(1979)
V.9,11,12(1980)
V.17;1-7(1981)
V.18(82)-V.26(90)

WORLD MINING ----------F V.26(73)-V.36(83)
(SEE WORLD MINING EQUIPMENT)

WORLD MINING EQUIPMENT ----------V.08(84)-V.14(90)

APPENDIX B
STANDARDS INDEX, SAMPLE PAGES

Cust-Prom Card Rev-Col

Miniature Boilers
See Also Boilers; Power Boilers

—Construction

ASME Sec I-89. BPVC SECTION I Rules for Construction of Power Boilers (Non-Interfled) (Boiler and Pressure Vessel Codes, 1989). 300 pp. 1616-0998 7012 A-01

ASME Sec I Pt PG-89. General Requirements for All Methods of Construction (Boiler and Pressure Vessel Codes, 1989). 74 pp. 1567-0830 4011 B-09

ASME Sec I Pt PMB-89. Requirements for Miniature Boilers (Boiler and Pressure Vessel Codes, 1989). 4 pp. 1567-0168 4012 E-09

Miniature Screw Threads
See Also Screw Threads

—Unified

ASME B1.10-58. Unified Miniature Screw Threads (R 1988). 19 pp. 1751-2917 0032 B-09

Miniature Screws
See Also Screws

AIA/NAS NAS 721-79. Screw, Miniature Fillister Head (Rev. 2). 2 pp. 0302-1115 6079 F-10

AIA/NAS NAS 722-79. Screw, Miniature Pan Head (Rev. 2). 2 pp. 0302-1117 6079 F-12

AIA/NAS NAS 723-79. Screw, Miniature 100 Deg Flat Head (Rev. 2). 2 pp. 0302-1119 6079 F-14

AIA/NAS NAS 724-79. Screw, Miniature Binding Head (Rev. 2). 2 pp. 0302-1121 6079 G-02

AIA/NAS NAS 725-79. Miniature Screws (Rev. 2). 8 pp. 0302-1123 6079 G-04

ASME B18.11-61. Miniature Screws (R 1983); DoD Adopted. 12 pp. 1752-2492 0075 A-14

Mining
See Also Drilling

—Fire Protection

NFPA 123-87. Standard for Fire Prevention and Control in Underground Bituminous Coal Mines (National Fire Codes, vol. 6, 1989). 18 pp. 3186-0676 6501 A-14

NFPA 124-88. Standard for Fire Protection of Diesel Fuel and Diesel Equipment in Underground Mines (National Fire Codes, vol. 6, 1989). 22 pp. 3186-0694 6501 C-04

—Mapping

ASTM D4879-89. Standard Guide for Geotechnical Mapping of Large Underground Openings in Rock. 10 pp. 2014-2358 1935 E-14

—Radiation Protection and Safety

ANSI N13.8-73. Radiation Protection in Uranium Mines; Partial Revision & Redesignation of N7.1-60 and N7.1A-69 (R 1989). 23 pp. 0755-0177 9536 F-04

—Radioactive Wastes—Retention

AICHE A20-74. Stabilization of Uranium-Thorium Milling Waste-Retention Systems. 2 pp. 0403-0285 7610 A-01

Mining Equipment
Use For: Coal Mining Equipment
See Also Excavating Equipment

ANSI M11.1-80. Wire Rope for Mines. 90 pp. 0955-1090 9972 D-08

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NFPA 121-86. Standard on Fire Protection for Self-Propelled and Mobile Surface Mining Equipment (National Fire Codes, vol. 6, 1989). 15 pp. 3186-0634 6500 F-01

SAE J 1040-88. Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry and Mining Machines, Standard; April 1988. 33 pp. 3565-1639 0971 C-06

—Hydraulic Systems—Clips

SAE J 1467-88. Clip Fastener Fitting, Standard; December 1988. 13 pp. 3553-1550 0904 A-13

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Minority Carriers
See Also Semiconductors

—Germanium

ASTM F28-89. Standard Test Method for Measuring the Minority-Carrier Lifetime in Bulk Germanium and Silicon. 5 pp. 2301-2648 3891 E-06

—Silicon

ASTM F28-89. Standard Test Method for Measuring the Minority-Carrier Lifetime in Bulk Germanium and Silicon. 5 pp. 2301-2648 3891 E-06

Mirrors
Scope Note: Use a more specific term
See: Automobile Mirrors; Rear View Mirrors; Reflectors

Miscibility
See Also Solubility

—Lubricating Oils

ASTM D4682-87. Standard Specification for Miscibility with Gasoline and Fluidity of Two-Stroke-Cycle Gasoline Engine. 4 pp. 2066-2830 2553 C-13

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ASTM D1476-88. Standard Test Method for Heptane Miscibility of Lacquer Solvents; DoD Adopted. 1 p. 2103-0309 2291 A-14

ASTM D1722-86. Standard Test Method for Water Miscibility of Water-Soluble Solvents; DoD Adopted. 2 pp. 2104-3143 2876 D-08

Miscibility Testing
Use: Miscibility

Mites

ASTM E939-83. Standard Test Method of Field Testing Topical Applications of Compounds as Repellents for Medically Important and Pest Arthropods (Including Insects, Ticks, and Mites); I Mosquitoes (R 1988). 4 pp. 2154-0878 3114 F-01

Mitts
Use: Gloves

Mixed Aniline Point
Use: Aniline Point

Mixed Oxide Fuels
Use: Nuclear Fuels

Mixers
Scope Note: Use a more specific term
See: Construction Equipment; Contactors; Feeders; Separation; Separators

Mixing Equipment

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AI MS-3. Asphalt Plant Manual. 186 pp. 0275-0587 0206 B-04

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ASTM D290-85. Bituminous Mixing Plant Inspection, Practice for. 7 pp. 2002-1378 1820 F-12

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IEEE 499-83. Recommended Practice for Cement Plant Electric Drives and Related Electrical Equipment. 22 pp. 2783-2961 2791-1590 2532 A-12 2717 A-01

—Cement—Electric Power Distribution

IEEE 277-83. Recommended Practice for Cement Plant Power Distribution. 30 pp. 2783-1110 2794-3150 2512 A-13 2797 A-13

Mixing Valves
See Also Valves

—Water

ASSE 1029-81. Performance Requirements for Water Supply Valves: Mixing Valves and Single Control Mixing Valves. 24 pp. 1902-0396 3704 B-11

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Use: Microwave Landing Systems

Mobile Communication Systems
Use: Mobile Radio Communications

Mobile Cranes
See Also Cranes; Earthmoving Equipment

—Boomstops

SAE J 220-80. Crane Boomstop, Recommended Practice; October 1980. 3566-3607 4038 E-11

—Dictionaries

SAE J 1028-80. Mobile Crane Working Area Definitions, Recommended Practice; October 1980. 3566-3616 4038 F-06

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—Operation

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—Power

SAE J 820-80. Crane Hoist Line Speed and Power Test Code, Recommended Practice; October 1980. 3566-3604 4038 E-08

—Safety

ASME B56.7-87. Safety Standard for Industrial Crane Trucks; Special Notice-June 1988. 31 pp. 1753-2727 0125 D-10

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Standards Institute

ANSI

Z39.49-85

NUMBER	TITLE	CART/FRAME CARD-ROW-COL
Z39.49-85	Information Sciences - Computerized Book Ordering, Corrections - Dismember 1987 - 69 pp. Locator Code W-47-03	0906-3063 9943 B-08
Z39.50-88	Information Retrieval Service Definition and Protocol Specifications for Library Application	NISO ●
Z39.53-87	Information Sciences - Standard Order Form for Multiple Titles of Library Materials - 17 pp. Locator Code W-47-03	0906-3132 9944 A-01
Z39.53-87	Information Sciences - Codes for the Representation of Languages for Information Interchange - 22 pp. Locator Code T-35-23	0906-3169 9944 B-04
Z39.57-89	Holding Statements for Non-Serial Items	NISO ●
Z39.59-88	Electronic Manuscript Preparation and Markup, NA	NISO ●
Z39.63-88	Interlibrary Loan Data Elements, NA	NISO ●
Z39.64-89	East Asian Character Code for Bibliographic Use, NA	NISO ●
Z41-83	Personnel Protection - Protective Footwear - 23 pp. Locator Codes C-84-30, C-84-35, S-13-13	0906-1206 9836 E-11
Z49.1-88	Safety in Welding and Cutting - 38 pp. DoD Adopted	AWS ● 3423-3873 6301 C-05
Z50.1-88	Bakery Equipment - Safety Requirements - 27 pp. Locator Code C-36-05	0906-3171 9844 C-12
Z53.1-79	Safety Color Code for Marking Physical Hazards; Errata - 16 pp. Locator Code S-08-30	0906-1277 9897 A-01
Z60.1-86	Nursery Stock	AAN ●
† Z61.1-79	Home Cooking and Baking Utensils, Dimensions, Tolerances, and Terminology for; Errata - March 1979 (Withdrawn)	
Z65.1-80	Standard Method for Measuring Floor Area in Office Buildings (R 1989)	BOMA ●
Z79.3-83	Anesthetic Equipment - Oropharyngeal and Nasopharyngeal Airways - 15 pp. Locator Code C-92-39	0906-1356 9817 A-11
Z79.4-83	Anesthetic Equipment - Reservoir Bags - 11 pp. Locator Code C-92-05	0906-1369 9817 B-13
Z79.8-79	Components and Systems of Continuous-Flow Anesthesia Machines for Human Use, Minimum Performance and Safety Requirements for; Includes Correction January-1982 - 38 pp. Locator Code C-92-05	0906-1414 9819 A-01
Z79.9-79	Humidifiers and Nebulizers for Medical Use - 16 pp. DoD Adopted Locator Codes C-92-05, C-94-52	0906-1472 9898 B-10
Z79.10-79	Requirements for Oxygen Analyzers for Monitoring Patient Breathing Mixtures - 20 pp. DoD Adopted Locator Code F-85-71	0906-1488 9899 A-01
Z79.11-82	Anesthetic Equipment - Scavenging Systems for Excess Anesthetic Gases - 14 pp. Locator Code C-92-05	0906-1508 9802 B-04
Z79.13-81	Oxygen Concentrators for Medical Use - 13 pp. Locator Code H-25-09	0906-1523 9889 E-03
Z79.14-83	Anesthetic Equipment - Tracheal Tubes - 18 pp. DoD Adopted Locator Code C-92-39	0906-1536 9837 B-09
Z79.16-83	Anesthetic Equipment - Cuffed Oral Tracheal and Nasal Tracheal Tubes for Prolonged Use - 23 pp. Locator Code C-93-59	0906-1554 9837 C-13
Z80.1-87	Ophthalmics - Prescription Ophthalmic Lenses - Recommendations - 27 pp. Locator Code C-94-03	0906-3198 9844 E-11
Z80.2-89	Ophthalmics - Rigid Contact Lenses - Requirements - 17 pp. Locator Code C-94-03	0906-3476 9801 A-01
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Z80.6-83	Ophthalmics - Conventional Hard Plastic Contact Lenses - Physicochemical Properties - 10 pp. Locator Code C-94-03	0906-1649 9898 B-05
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Z83.3-71	Gas Utilization Equipment in Large Bakery First Edition; Addenda Z83.3A - 1972, Addenda Z83.3B - 1976 - 33 pp.	A.G.A. ● 0383-3309 1632 A-01
† Z83.4-89	Direct Gas-Fired Make-Up Air Heaters Fourth Edition; Addenda Z83.4A - 1989 - 66 pp.	A.G.A. ● 0205-0474 1972 A-01
Z83.6-87	Gas-Fired Infrared Heaters Fifth Edition; Addenda Z83.6A - 1989, Addenda Z83.6B - 1989 - 81 pp.	A.G.A. ● 0383-3441 1664 F-04 1665 A-01
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Z83.8-85	Gas Unit Heaters Thirteenth Edition; Addenda Z83.8A - 1986, Addenda Z83.8B - 1989 - 105 pp.	A.G.A. ● 0383-1536 1684 A-01 1685 A-01
Z83.9-86	Gas-Fired Duct Furnaces Tenth Edition; Addenda Z83.9A - 1989 - 96 pp.	A.G.A. ● 0205-0640 1972 E-11 1973 A-01
Z83.11-86	Gas Food Service Equipment Ranges and Unit Broilers Twelfth Edition; Addenda Z83.11A - 1987, Addenda Z83.11B - 1988 - 81 pp.	A.G.A. ● 0203-0874 1967 A-10
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Z83.13-86	Gas Food Service Equipment Deep Fat Fryers Tenth Edition; Addenda Z83.13A - 1987, Addenda Z83.13B - 1988 - 74 pp.	A.G.A. ● 0203-0730 1968 F-06 1969 A-01
Z83.14-86	Gas Food Service Equipment Counter Appliances (Counter- or Floor-Mounted) Tenth Edition; Addenda Z83.14A - 1987, Addenda Z83.14B - 1988 - 86 pp.	A.G.A. ● 0203-0804 1969 D-14 1970 A-01
Z83.15-86	Gas Food Service Equipment Kettles, Steam Cookers and Steam Generators Sixth Edition; Addenda Z83.15A - 1987, Addenda Z83.15B - 1988 - 69 pp.	A.G.A. ● 0203-0890 1970 D-05 1971 A-01
Z83.16-82	Gas-Fired Unvented Commercial and Industrial Heaters First Edition; Addenda Z83.16A - 1984, Addenda Z83.16B - 1989 - 64 pp.	A.G.A. ● 0205-1369 1610 F-01 1611 A-01
Z83.17-88	Direct Gas-Fired Dust Heaters First Edition; Addenda Z83.17A - 1989, Addenda Z83.17B - 1989 - 63 pp.	A.G.A. ● 0205-0546 1705 E-06 1706 A-01
Z83.18-87	Direct Gas-Fired Industrial Air Heaters First Edition; Addenda Z83.18A - 1989, Addenda Z83.18B - 1989 - 65 pp.	A.G.A. ● 0205-0409 1706 C-04
† Z85.1-80	Permanent and Durable Library Catalog Cards (Withdrawn)	
Z86.3-89	Underwater Safety - Entry-Level Scuba Certification - Minimum Course Content - 16 pp. Locator Code C-18-05	0906-3031 9820 C-01
Z86.7.1-87	Underwater Safety - Low-Pressure Hose Assemblies Connecting First and Second Stages on Scuba-Diving Regulators - Design and Minimum Performance Requirements - 16 pp. Locator Codes E-14-11, C-18-33	0906-2279 9845 D-09
Z86.7.2-87	Underwater Safety - High-Pressure Hose Assemblies Used on Submersible Pressure Gauges for Scuba Diving - Design and Minimum Performance Requirements - 13 pp. Locator Codes E-14-11, C-18-33	0906-2291 9845 B-11
Z86.11-85	Underwater Safety - Recreational Skin and Scuba Diving - Lenses for Masks - 13 pp. Locator Code C-18-45	0906-1719 9827 E-13
Z87.1-89	Practice for Occupational and Educational Eye and Face Protection	ASSA ●
Z88.2-80	Practices for Respiratory Protection 41 pp. DoD Adopted Locator Code S-09-03	0906-1772 9897 E-12 9894 A-01
Z88.3-83	Respiratory Protection - Protection During Fumigation - 28 pp. Locator Code S-09-03	0906-1913 9908 C-01
Z88.5-81	Respiratory Protection for the Fire Service, Practices for - 22 pp. Locator Code S-09-03	0906-1941 9910 D-06
Z88.6-84	Respiratory Protection - Respirator Use - Physical Qualifications for Personnel - 17 pp. Locator Code S-09-03	0906-1963 9815 A-01
Z89.1-86	Personnel Protection - Protective Headwear for Industrial Workers Requirements - 21 pp. Locator Code S-15-05	0906-3306 9845 F-12 9846 A-01
Z90.1-71	Protective Headgear for Vehicular Users, Specs. for; Supplement Z90.1A - 1973, Supplement Z90.1B - 1979, - 15 pp. Locator Code C-78-11	0906-1901 9800 D-05
Z90.4-84	Protective Headgear - for Bicyclists - 17 pp. Locator Code C-78-11	0906-1917 9817 C-10
Z94.0-89	Industrial Engineering Terminology (Revision of ANSI Z94.0- 1982)	IIE ●
Z97.1-84	Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test - 20 pp. D.D Adopted Locator Code L-83-27	0824-1520 9184 B-14
Z117.1-89	Safety Requirements for Confined Spaces	ASSE ●
† Z124.1-87	Plastic Bathtub Units; Addendum Z124.1A - 1990	IAPMO ●
Z124.2-87	Plastic Shower Receptors and Shower Stalls	IAPMO ●
Z124.3-86	Plastic Lavatories	IAPMO ●

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FIGURE 1, APPENDIX C
SAMPLE SEARCH
NTIS-NATIONAL TECHNICAL INFORMATION SERVICE
BIBLIOGRAPHIC FILE

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File    6:NTIS - 64-90/ISSUE19
          (COPR. 1990 NTIS)

      Set  Items  Description
      ---  -----  -----------
?s roof(w)falls and coal and mining

             2455  ROOF
             2585  FALLS
               60  ROOF(W)FALLS
            36107  COAL
            26263  MINING
       S1      45  ROOF(W)FALLS AND COAL AND MINING
```

Forty five items are in the NTIS file on roof falls in coal mining. One of the citations is listed below.

Microseismic Roof Fall Warning System

Westinghouse Electric Corp., Boulder, Colo. Geophysical Instrumentation Systems.*Bureau of Mines, Washington, D.C.

Final rept.
AUTHOR: Farstad, A. J.; Kalvels, D.; Kehrman, R. F.; Fisher, C. Jr; Leschek, W. C.
D1653H3 Fld: 8I, 48A GRAI7708
Nov 76 154p
Contract: H0242045
Monitor: BuMines-OFR-18-77

Abstract: Acoustic emission techniques show promise for the prediction of roof falls in coal mines. Sufficient data were obtained to evaluate the performance of the system as an acoustic emission detection device. The data obtained indicate the direction for improvement and simplification of the instrumentation involved. Additional long-term data measurement programs to provide a statistical and analytical data base of roof fall characteristics should lead to a suitable cost effective technique for roof fall prediction in mines. Of the two types of data obtained on this program (that is, acoustic threshold exceedance time and microseismic event count), the former is more indicative of the onset of a potential roof fall. In most cases, the acoustic threshold exceedance time increased gradually with increasing stress buildup in the roof and suddenly decreased sharply just prior to a roof fall. The main uncertainty that remains in attempting to analyze the data thus obtained is how long a time period should elapse between the sudden drop in acoustic emission activity and the associated impending roof fall. Obviously, this time duration will be a function of the strength of the roof and its associated mechanical properties. To be able to predict the time of an impending roof fall with any degree of accuracy, it will be necessary to obtain more data in a variety of mines under different roof conditions and dimensions. A statistical analysis of the data obtained should aid in identifying correlating factors between roof type and size, acoustic emission activity, and roof fall behavior.

FIGURE 2, APPENDIX C
SAMPLE SEARCH
OCCUPATIONAL SAFETY AND HEALTH (NIOSH)
BIBLIOGRAPHIC FILE

File 161:OCCUPATIONAL SAFETY & HEALTH (NIOSH) -73-90/JAN

Set	Items	Description
?s roof(w)fall? ? and coal and mining		
	1493	ROOF
	1982	FALL? ?
	34	ROOF(W)FALL? ?
	4198	COAL
	3624	MINING
S1	29	ROOF(W)FALL? ? AND COAL AND MINING

Twenty nine items are in the NIOSH file on roof falls in coal mining. One of the citations is listed below.

?T

6/5/11

6/5/11
0101739 NIOSH-00090864
Design and Development of Protective Canopies for Shuttle Car, Loader, and Roof Drill
Hermanson, W., and H. Billmayer
Office of the Assistant Director--Mining, U.S. Bureau of Mines, Final Report No. BuMines-OFR-4-76, 39 pages. December 1974
REPORT NO.: PB-248-833
Three canopies, for shuttle car, loader, and roof drill used in mining, were refined and modified. The previous canopy for the shuttle car was unsatisfactory because of poor visibility. Several wooden mockups were tested in mine, and evaluations as to visual acceptability were given by on-site operators. The three section, cantilevered canopy was judged to have the greatest acceptance over the original canopy since it produced greater operator visibility. The canopy was tested for load, as in a roof fall, and met all U.S. Bureau of Mines requirements. Because the loader canopy developed earlier had sustained damage to the hydraulic cylinder piston rods, the installation of mechanical adjusting posts as tested. The posts had pins for various height positions with a minimum overall height of 30 inches and a maximum overall height of 48 inches. Because of the extra weight of the canopy for the roof drill and the stiffness of the floor material, loose coal on the floor of the mine piled up in front causing a "bulldozing" effect as it was trammed forward. With lighter flooring material installed at a shallow angle and an overall improvement of the canopy, the tendency to "bulldoze" was eliminated. The face drill canopy and cutter canopy installed previously were both observed to be functioning adequately with no major problems and were acceptable to the miners.
DESCRIPTORS: Mining equipment; Protective equipment; Safety equipment; Protective measures; Underground mining; Coal mining; Personal protective equipment; Safety engineering

FIGURE 3, APPENDIX C
SAMPLE SEARCH
COMPENDIX ENGINEERING INFORMATION

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File   8:COMPENDEX PLUS _ 70-90/SEP
         Copr. Engineering Info Inc. 1990)
** PY=1990 is incomplete

      Set  Items  Description
      ---  -----  -----------
?s roof(w)fall? ? and coal and mining

            6601  ROOF
           11059  FALL? ?
             138  ROOF(W)FALL? ?
           55164  COAL
           34399  MINING
      S1     117  ROOF(W)FALL? ? AND COAL AND MINING
```

One hundred and seventeen items are in the Compendix file on roof falls in coal mining. Two of the citations are listed below.

6/5/21
1049813 E.I. Monthly No: EIB110080418 E.I. Yearly No: EI81014855
ROOF SUPPORT SYSTEMS AID WORKERS.
Brezovec, David
Coal Age v 86 n 4 Apr 1981 p 148-150, 153-156
CODEN: COLAA7 ISSN: 0009-9910
Language: ENGLISH
To stem roof falls, roof drill manufacturers offer diverse protective systems. One development is the introduction of automated temporary roof support systems that can be retrofitted onto old roof drills.
Descriptors: *COAL MINES AND MINING--*Roof Supports
Classification Codes: 503 (Mines & Mining, Coal)
50 (MINING ENGINEERING)

308433 ID NO.- EI730208433
NEW MINE MONITORING SYSTEM WATCHES CONDITIONS EVERY DAY IN EVERY WAY.
Chironis, Nicholas P. (Ed.)
Coal Age v 77 n 12 Dec 1972 p 80-82 CODEN: COAAAK
A remarkable monitoring system now being installed in an underground mine in West Virginia will keep a safety watch over a section of the mine by sensing seven key environment factors. The system will note the magnitude of these factors and the differences that occur in such readings between one air passageway and another. The system, conceived and developed by the Dept of Eng of the W Va Univ of Morgantown, will automatically monitor by remote control: contents of CH//4, CO and O//2, as well as temperature, relative humidity, air velocity, and ventilating pressure drop, and by doing so signal abnormal conditions due to fires, roof falls, etc. System is computerized.
DESCRIPTORS: (*MINE VENTILATION, *Control), (COAL MINES AND MINING, Accident Prevention), CONTROL FACILITIES,
CARD ALERT: 502, 503, 732, 914

FIGURE 4, APPENDIX C
SAMPLE SEARCH
GEOARCHIVE
GEOSYSTEMS BIBLIOGRAPHIC FILE

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File  58:GEOARCHIVE _ 74-90/MAR
        (Copr. Geosystems)

      Set  Items  Description
      ---  -----  -----------
?s roof(w)fall? ? and coal and mining
        .
             496  ROOF
             837  FALL? ?
              22  ROOF(W)FALL? ?
           18252  COAL
           27795  MINING
      S1       8  ROOF(W)FALL? ? AND COAL AND MINING
```

Eight items are in the Geoarchive file on roof falls in coal mining. One of the citations is listed below.

```
1/5/5
026020   GA444000295
  Roof  fall  study  Pocahontas no 3 seam (West Virginia). Joint data anal
yses
  FERM, JC
  Open-File Rep U S Bur Mines (Washington DC)  1977   JRNL CODE:   OFRBMI
  1/2 414P
  LANGUAGE: ENGLISH
  DESCRIPTORS: MINING GEOMECHANICS; COAL; JOINTS
  AUXILIARY DESCRIPTORS: NORTHEASTERN STATES
  DESCRIPTOR CODES: 346800; 410000; 733000
  AUXILIARY DESCRIPTOR CODES: 770000
```

FIGURE 5, APPENDIX C
SAMPLE SEARCH
GEOREF
AMERICAN GEOLOGICAL INSTITUTE BIBLIOGRAPHIC FILE

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File  89:GEOREF _ 1785-1990/JUN
         (Copr. American Geological Institute)

      Set  Items  Description
      ---  -----  -----------
?s roof(w)fall? ? and coal and mining

            1095  ROOF
           21257  FALL? ?
              55  ROOF(W)FALL? ?
           39621  COAL
           73437  MINING
      S1      37  ROOF(W)FALL? ? AND COAL AND MINING
```

Thirty-seven items are in the GEOREF file on roof falls in coal mining. One of the citations is listed below.

```
 6/5/13
1041533   81-27253
  Classification of roof falls in coal mines
  Patrick, W. C.; Aughenbaugh, N. B.
  Lawrence Livermore Lab., Livermore, CA, USA; Univ. Missouri, USA
  Transactions of the American Institute of Mining, Metallurgical, and
Petroleum Engineers Incorporated 266,  279-283p.,  1979
  Country of Publ.: United States
  ISSN: 0096-4778  ISBN: 089520276X
  CODEN: TMENAE  3 REFS.
  Subfile: B
  Doc Type: SERIAL   Bibliographic Level: ANALYTIC
  Languages: English
  illus., tables, plates
  Descriptors: *mining geology ; classification ; roof control
  Section Headings: 22  (ENGINEERING & ENVIRONMENTAL GEOLOGY)
```

FIGURE 6, APPENDIX C
SAMPLE SEARCH
STANDARDS AND SPECIFICATIONS

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File 117:STANDARDS & SPECIFICATIONS-JUL90
         (Copr.NSA)
         REPORTS: 800-638-8094

      Set  Items  Description
      ---  -----  -----------
?s mining

      S1      56  MINING
```

Fifty-six items are in the Standards and Specifications file on mining. Two of the citations are listed below.

```
 1/5/4
094332   NFPA 121, V.9
  Fire Protection for Mobile Surface Mining Equipment
  NFPA  NATIONAL FIRE PROTECTION ASSOCIATION
  1981
  ENGLISH

 1/5/5
094102   IB 9-81     NSA CARD NO: IB 9-81
  Mining Vehicle Battery Chargers
  NEMA  NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
  ENGLISH
```

FIGURE 7, APPENDIX C
SAMPLE SEARCH
THE DEPARTMENT OF ENERGY

```
--WELCOME TO OARS--
OSTI Automated Retrieval System

ENERGY DATA BASE

Contains minimum one-year window

from Issue 88:12

      S/ f roof and falls and coal
SET     6: 1627      roof
SET     7: 943       falls
SET     8: 29993     coal
SET     9: 71        roof and falls and coal
```

Seventy one items are in the Department of Energy file on roof falls in coal. One of the citations is listed below.

843519 EDB-82:018357
Syaleb of how to predict roof falls
Baron, S.
Ind. Miner., (Ser.) Tech. (France) 5 364 P. May 1981
Coden: INMTD
Journal Announcement: EDB8110
Document Type: Journal Article
Languages: French
Subfile: CLA .(Coal Abstracts)
Work Location: France

The Syaleb has been developed to predict roof falls. It consists of pickups which monitor the creep of the roof and of pillars, and the convergence between roof and floor. An electronic unit is equipped with microprocessors to calculate the acceleration of the deformations which have been measured by the pickups. One or two visible or audible alarms function as soon as this acceleration reaches a certain threshold. A single pickup is used for roof control of roadways during a mining operation; several are used in a central station if large zones have to be scanned. The Syaleb is already in service in several iron-ore mines: before long it will be in operation in a metalliferous mine and in a colliery. (In French)

Descriptors: *ROCK BURSTS----FORECASTING; *STRATA MOVEMENT----MONITORING ; COAL MINES; CREEP; DATA PROCESSING; FLOORS; MEASURING INSTRUMENTS; MINE ROADWAYS; MINES; MONITORS; ROOFS; SAFETY ENGINEERING; SUPPORT PILLARS

Special Terms: ENGINEERING; MEASURING INSTRUMENTS; MECHANICAL PROPERTIES; MINES; PROCESSING; TUNNELS

Class Codes: 012000*

FIGURE 8, APPENDIX C
SAMPLE SEARCH
AVILINE
NLM'S ONLINE AUDIOVISUAL CATALOG

```
SS 1 /C?
USER:
FILE AVLINE
PROG:
YOU ARE NOW CONNECTED TO THE AVLINE FILE.

SS 2 /C?
USER:
HEARING LOSS, NOISE INDUCED
PROG:
SS (2) PSTG (2)
```

A search was made in this file for audiovisual materials on hearing loss. A sample is listed below.

```
MH  - Ear Protective Devices
MH  - Hearing Loss, Noise-Induced/ePC/prevention & control - videocassettes
MH  - Occupational Diseases/ePC/prevention & control - videocassettes
MH  - Protective Devices/*/videocassettes
PN  - Alberti, Peter W.//////
PN  - Riko, K~ista/////
CN  - University of Toronto.  Faculty of Medicine.  Division of Instructional
      Media Services/
TI  - Let's hear it/G
GMD - [videorecording]
TC  -  : a film on industrial hearing protection
AS  -  / by Peter Alberti : produced by Instructional Media Services,
      University of Toronto.
IM  - Ontario, Canada :/The University,/c1980.
CO  - 1 videocassette (28 min.) : sd., col. ; 3/4 in.
GN  - Credits: Krista Riko.
GN  - "Funded by a grant from the Atkinson Charitable Foundation, Toronto,
      Ontario.:
CA  - WA 470 VC no.1 1980:02NLM
PC  - University of Toronto.  Faculty of Medicine.  Division of Instructional
      Media Services
PR  - Loan: University of Toronto, Faculty of Medicine, Division of
      Instructional Media Services, 30.00
PR  - Sale: University of Toronto, Faculty of Medicine, Division of
      Instructional Media Services, Write for complete information
LP  - Eng
EL  - FULL LEVEL
IT  - MONOGRAPH
MT  - PERSONAL NAME MAIN ENTRY
RO  - O:MXH
RO  - C:AEJ
RO  - M:ECB
DA  - 820325
MR  - 850106
LR  - 841206
UI  - 8200205A
AV  - A67526
```

FIGURE 9, APPENDIX C
SAMPLE SEARCH
CANCERLIT

```
USER:
file cancerlit
PROG:
YOU ARE NOW CONNECTED TO THE CANCERLINE (CANCERLIT) FILE.

SS 1 /C?
USER:
uranium and mining
PROG:
SS (1) *STG (122)
```

One hundred and twenty-two items are in the CANECRLIT file on uranium and mining. One of the citations is listed below.

```
7
AU  - Cross FT
AD  - No affiliation given
TI  - RISK OF LUNG CANCER FROM RADON (RADON DAUGHTER) EXPOSURES (MEETING
      ABSTRACT).
SI  - HERN/83/02974
SO  - Thirty-first Annual Meeting of the Radiation Research Society, February
      27-March 3, 1983, San Antonio, Texas. Radiation Research Society  145
      pp., 1983.
LA  - ENG
AB  - It is now generally agreed that the inhalation of radon daughters is the
      major potential radiation hazard in uranium mining. Radon and radon
      daughters also contribute a substantial fraction to the natural radiatio
      exposure of the general population due to the accumulation of these
      radionuclides in buildings. Current efforts to conserve energy by
      reducing ventilation rates and weatherizing buildings further increase
      the potential for this type of radiation exposure. There is now
      considerable radiobiologic, epidemiologic and dosimetric evidence on thi
      subject. Based on the recent work an NCRP Task Group on radon, we have
      combined dosimetric and epidemiologic data to provide a predictive model
      for estimating the lifetime lung cancer risk from exposure to radon and
      radon daughters. The predictive model incorporates the influence of age
      at first exposure and duration of exposure. We have also reviewed animal
      studies for their contribution to our understanding of exposure-response
      relationships and other factors bearing on the carcinogenic effects of
      exposure to radon and radon daughters. We then combine the three types o
      data (radiobiologic, epidemiologic and dosimetric) to provide plausible
      values for the lifetime lung cancer risk coefficient, and contrast the
      resulting values with previously accepted values for modeling this risk.
      (no Refs)
```

FIGURE 10, APPENDIX C
SAMPLE SEARCH
CANCERPROJ

```
FILE CANCERPROJ
PROG:
YOU ARE NOW CONNECTED TO THE CANCERPROJ FILE.

SS 1 /C?
USER:
URANIUM AND MINING
PROG:
MM (URANIUM) (4)
              1  URANIUM (MH)
              2  URANIUM (TW)
              3  URANIUM (NF)
              4  URANIUM (NM)
SPECIFY NUMBERS, ALL, OR, NONE-

USER:
ALL
PROG:
MM (MINING) (2)
              1  MINING (MH)
              2  MINING (TW)
SPECIFY NUMBERS, ALL, OR, NONE-

USER:
ALL
PROG:
SS (1) PSTG (12)
```

Twelve items are in the CANCERPROJ file concerned with ongoing research in uranium and mining. Two of the citations are listed below.

```
1
TI  - Uranium Miner Lung Cancer Study
IR  - Saccomanno G
AD  - Veterans Administration: Medical Center: Grand Junction, CO
AB  - The results of continuing sputum studies on patients admitted at the
      Grand Junction VA Medical Center are presented.  Of a total of 1,199
      cases examined between October 24, 1980 and June 30, 1983, 2.0% are
      unsatisfactory, 11.9% negative, 24%, 47.5%, 98% and 1.3% present regular,
      mild, moderate and marked atypia, respectively, 1.3% are suspicious for
      malignancy and 1.0% positive for malignancy.  Four of 12 cases suspicious
      for malignancy and 9 of 29 cases positive for malignancy are miners.

6
TI  - Mining and Cancer
IR  - Logan WP
AD  - Dr. W.P. Logan: 10 Chemin de la Tourelle: 1209 Geneva, Switzerland
TEL - (022) 985873
AB  - In some forms of mining, increased cancer risks, especially of lung, are
      well established, e.g., asbestos or uranium, but in others they are less
      certain, e.g., hematite or ores containing arsenic.  Coal miners have an
      excess risk of stomach cancer but not of lung cancer, and so do their
      wives.  For many years conflicting views have been expressed about
      whether there is an association or a dissociation between lung cancer and
      silicosis.  A comprehensive review is being carried out, based mainly on
      published data, of risks of different forms of cancer in relation to the
      mining, milling, and, where appropriate, refining of various metals and
      minerals.
ID  - 02876
```

FIGURE 11, APPENDIX C
SAMPLE SEARCH
CHEMLLINE - CHEMICAL DICTIONARY

```
PROG:
YOU ARE NOW CONNECTED TO THE CHEMLINE FILE.

SS 1 /C?
USER:



METHANE
PROG:
MM (METHANE) (2)
            1  METHANE (N1)
            2  METHANE (SY)
SPECIFY NUMBERS, ALL, OR, NONE-

USER:
ALL
PROG:
SS (1) PSTG (1)
```

A search was done on "methane." The information from the Chemline file regarding methane is listed below.

```
SS 2 /C?
USER:
PRT FULL
PROG:

1
RN  - 74-82-8
MF  - C-H4
NI  - Methane (8CI)(9CI)
SY  - FIRE DAMP  [RTECS:TDB]
SY  - MARSH GAS  [RTECS:TDB]
SY  - Methane  [MESH*:RTECS:TDB*]
SY  - Methane [DOT]  [RTECS]
SY  - METHANE, compressed [DOT]  [RTECS]
SY  - METHANE, refrigerated liquid [DOT]  [RTECS]
SY  - Methyl hydride  [RTECS:TDB]
SY  - R 50 [refrigerant]  [CAS]
SY  - UN 1971 [DOT]  [RTECS]
SY  - UN 1972 [DOT]  [RTECS]
LO  - TOXLINE
LO  - TOXBACK76
LO  - TOXBACK65
LO  - RTECS
LO  - MEDLINE
LO  - MED80
LO  - MED77
LO  - TDB
LO  - TSCAINV
```

FIGURE 12, APPENDIX C
SAMPLE SEARCH
HSDB - HAZARDOUS SUBSTANCE DATA BANK

```
YOU ARE NOW CONNECTED TO THE HAZARDOUS SUBSTANCES DATABANK.
SOME DATA IN THIS FILE MAY NOT BE PEER REVIEWED.


SS 1 /C?
USER:
NITRIC OXIDE
SS (1) PSTG (1)

. .
```

A search was done on "nitric oxide." A small portion of the data on nitric oxide from this file is listed below.

```
EXPL - NITRIC OXIDE & CARBON DISULFIDE REACT EXPLOSIVELY WITH EMISSION OF LIGHT:
       MIXTURE OF NITRIC OXIDE & CHLORINE MONOXIDE CAN BE EXPLOSIVE: NITROGEN
       TRICHLORIDE EXPLODES ON CONTACT WITH NITRIC OXIDE: MIXTURES OF NITRIC
       OXIDE & OZONE EXPLODE EVEN WHEN QUANTITY OF OZONE IS SMALL. [NFPA. FIRE
       PROTECT GUIDE HAZARD MATLS 1978]

PPOT - IMMEDIATELY ON CONTACT WITH AIR, NITRIC OXIDE IS CONVERTED TO HIGHLY
       POISONOUS NITROGEN DIOXIDE, NITROGEN TETROXIDE OR BOTH. [MERCK INDEX 9TH
       ED 1976]
PPOT - CONTINUED INHALATION OF LOW CONCN CAUSES...CORROSION OF TEETH... [CHRIS.
       HAZARD CHEM DATA MANUAL 2 1978]

EQUP - GAS MASKS PLUS ADEQUATE VENTILATION ARE MANDATORY WHEN HANDLING EVEN
       SMALL AMT IN LAB. [MERCK INDEX 9TH ED 1976]

ARTS - MAIN SOURCE OF URBAN NITRIC OXIDE...IS COMBUSTION OF FOSSIL FUELS. ESCAPE
       OF...GASES FROM INDUSTRIAL PROCESSES WHERE NITRIC OXIDE IS MADE OR USED,
       OR FROM FERTILIZER OR EXPLOSIVE FACTORIES. CAN BE IMPORTANT IN LOCAL AREA
       & IN PLANTS THEMSELVES. IN GENERAL, HIGHER COMBUSTION TEMP YIELD MORE
       NITROGEN OXIDES [PATTY, INDUS HYG & TOX 3RD ED VOL2A,2B,2C 1981-82]

NREC - OCCUPATIONAL EXPOSURE TO OXIDES OF NITROGEN RECOMMENDED STD- AIR: TIME
       WEIGHTED AVG (TWA) 25 PPM. [NIOSH. RTECS ONLINE FILE, CURRENT FILE]
TLV  - TIME WEIGHTED AVG (TWA) 25 PPM, APPROX 30 MG/CU M: SHORT TERM EXPOSURE
       LIMIT (STEL) 35 PPM, APPROX 45 MG/CU M (1980). [ACGIH. TLVS 4TH ED &
       SUPPL 1980]
```

FIGURE 13, APPENDIX C
SAMPLE SEARCH
MEDLINE

```
PROG:
YOU ARE NOW CONNECTED TO THE MEDLINE (1988 - 90) (ILR.

SS 1 /C?
USER:
mining
PROG:
SS (1) FSTG (267)
```

Two hundred and sixty-seven items are in the MEDLINE file on mining. One of the citations is listed below.

```
SS 2 /C?
USER:
PRT TI,AU,SO,AB

1
TI  - Chronic hazards and acute enforcement: dilemma for occupational health
      enforcement policy.
AU  - Weeks JL
AU  - Jordan ML
AB  - It is a well-understood principle of public health--and of disease
      control in general--that preventive efforts must be consistent with the
      natural history of a targeted disease. Governmental standards-setting and
      enforcement policies in occupational health confuse short-term strategies
      for safety hazard control with long-term disease control. Recent
      decisions in mining to rely on "significant and substantial: acute risk
      are incompatible with medical and epidemiological evidence on the nature
      and progress of chronic disease in many industries.
SO  - Milbank Mem Fund Q 1985 Winter;63(1):127-40
```

FIGURE 14, APPENDIX C
SAMPLE SEARCH
RTECS
REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES

```
RTECS
PROG:
YOU ARE NOW CONNECTED TO THE RTECS FILE.
TOXICITY DATA IN NIOSH'S RTECS HAVE NOT BEEN CRITICALLY EVALUATED.

SS 1 /C?
USER:
CARBON MONOXIDE
PROG:
SS (1) PSTG (1)
```

A search was done on "carbon monoxide." The data from the RTECS file regarding carbon monoxide are listed below.

```
SS 2 /C?
USER:
PRT FULL
PROG:

SI  - NIOSH/FG3500000
N1  - CARBON MONOXIDE
RN  - 630-08-0
TR  - TOXICOLOGY REVIEW ENVRAL Environmental Research. 10,236,75
TR  - TOXICOLOGY REVIEW EVHPAZ Environmental Health Perspectives. DHEW
      Publication No. 11,163,75
TR  - TOXICOLOGY REVIEW AOHYA3 Annals of Occupational Hygiene. 17(2),143,74
TR  - TOXICOLOGY REVIEW CLCHAU Clinical Chemistry. 19,361,73
TR  - TOXICOLOGY REVIEW AJMEAZ American Journal of Medicine. 38,409,65
TR  - TOXICOLOGY REVIEW FNSCA6 Forensic Science. 2,67,73
TR  - TOXICOLOGY REVIEW AOHYA3 Annals of Occupational Hygiene. 17,159,74
TR  - TOXICOLOGY REVIEW NTIS** National Technical Information Service.
      CONF-691001
TR  - TOXICOLOGY REVIEW BPAAAG Beitraege zur Pathologischen Anatomie und
      Allgemeinen Pathologie. 135,350,67
TR  - TLV-TWA 50 ppm: STEL 400 ppm DTLVS* "Documentation of Threshold Limit
      Values for Substances in Workroom Air," Cincinnati, Ohio, American
      Conference of Governmental Industrial Hygienists, 1980 4,72,80
SR  - OSHA STANDARD-air:TWA 50 ppm (SCP-W) FEREAC Federal Register. 39,23540,74
SR  - DOT-HAZARD:FLAMMABLE GAS: LABEL:FLAMMABLE GAS CFRGBR Code of Federal
      Regulations. 49,172.101,84
SR  - DOT-IMO:FLAMMABLE GAS: LABEL:FLAMMABLE GAS AND POISON GAS CFRGBR Code of
      Federal Regulations. 49,172.102,84
NC  - CRIT DOC. OCCUPATIONAL EXPOSURE TO CARBON MONOXIDE recm std-air:TWA 35
      ppm:CL 200 ppm NTIS** National Technical Information Service.
ST  - "NIOSH MANUAL OF ANALYTICAL METHODS" VOL 4 S340*
                NIMAM*
ST  - "NIOSH MANUAL OF ANALYTICAL METHODS" TO BE REVISED BY JUNE, 1985
ST  - REPORTED IN EPA TSCA INVENTORY, 1983
ST  - MEETS CRITERIA FOR PROPOSED OSHA MEDICAL RECORDS RULE
      FEREAC 47,30420,82
```

FIGURE 15, APPENDIX C
SAMPLE SEARCH
SERLINE
lIST OF JOURNALS ONLINE
NATIONAL LIBRARY OF MEDICINE

```
YOU ARE NOW CONNECTED TO THE SERLINE FILE.

SS 1 /C?
USER:
occupational and safety

USER:
all
PROG:
SS (1) PSTG (60)
```

Sixty serials or journals in this file are concerned with occupational safety. Two of these are listed below.

```
9
TI  - FEDERAL MINE HEALTH PROGRAM
TA  - Fed Mine Health Program
FL  - 1977/78--
PL  - CINCINNATI  OH
PU  - U.S.DHEW. PUBLIC HEALTH SERVICE. CENTER FOR DISEASE CONTROL. NATIONAL
      INSTITUTES FOR OCCUPATIONAL SAFETY AND HEALTH
GN  - CONTINUES THE FEDERAL COAL MINE HEALTH PROGRAM. CONSISTS OF THE ANNUAL
      REPORT OF HEALTH ACTIVITIES UNDER THE FEDERAL MINE SAFETY AND HEALTH ACT
      OF 1977.
FR  - A
OC  - OPEN
LA  - ENG
MH  - ACCIDENT PREVENTION
MH  - MINING
MH  - OCCUPATIONAL DISEASES
MH  - OCCUPATIONAL HEALTH SERVICES
MH  - UNITED STATES
CY  - UNITED STATES
U2  - 8010102
CA  - W2 A N1655F
UI  - F03475000

35
DA  - 790709
TI  - OCCUPATIONAL SAFETY AND HEALTH STATISTICS OF THE FEDERAL GOVERNMENT
TK  - OCC/S/A/H
TA  - Occup Saf Health Stat Fed Gov
FL  - 1972--
PL  - WASHINGTON
PU  - U.S. DEPARTMENT OF LABOR. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
GN  - OSHA 2066. ETC.
IS  - 0092-8712
FR  - A
OC  - OPEN
Y1  - 1972
LA  - ENG
MH  - ACCIDENTS. OCCUPATIONAL
MH  - GOVERNMENT AGENCIES
MH  - OCCUPATIONAL DISEASES
MH  - UNITED STATES
CY  - UNITED STATES
U2  - 7907168
CA  - W2 A 0140
L1  - 01MLC
```

FIGURE 16, APPENDIX C
SAMPLE SEARCH
TDB - TOXICOLOGY DATABANK FILE

YOU ARE NOW CONNECTED TO THE TOXICOLOGY DATABANK FILE.
ALL DATA IN THIS FILE HAS BEEN PEER REVIEWED.

A search was done on "methane." A small portion of the data on methane from this file is listed below.

TDBN - 167
NAME - METHANE
FPOT - THE FLAMMABLE MIXTURE OF GAS & AIR MAY EXTEND FAR BEYOND THE DISTANCES THAT ARE REGARDED AS ADEQUATE FOR NORMAL SAFETY PURPOSES. WITH THE RESULT THAT THE FLAMMABLE MIXTURE MAY BECOME IGNITED BY A HOUSEHOLD FIRE OR AUTOMOBILE ENGINE WELL OUTSIDE THE SPECIFIED DANGER ZONE. VAPOR MAY THUS BE SET ALIGHT OVER A VERY LARGE AREA & FLAME PROPAGATION THROUGH THE MIXTURE MAY REACH EXPLOSIVE VIOLENCE. /HYDROCARBONS, ALIPHATIC/ [ENCYC OCCUPAT HEALTH & SAFETY 1983]
FPOT - FIRE OR EXPLOSION HAZARDS MAY RESULT WHEN EXPOSED TO HEAT OR FLAME. [RUMACK. POISINDEX 1975-PRESENT]

FIRP - TO FIGHT FIRES DRY CHEMICAL IS PREFERRED. BUT WATER MAY ALSO BE USED FROM A LOCATION THAT IS SAFE FROM EXPLOSION. [RUMACK. POISINDEX 1975-PRESENT]

PPOT - ...NON-POISONOUS GAS... CAUTION: SIMPLE ASPHYXIANT. [MERCK INDEX 10TH ED 1983]
ANTR - OVEREXPOSURE MAY CAUSE SIMPLE ASPHYXIATION BY EXCLUDING AIR OR OXYGEN. IF ILL EFFECTS OCCUR, GET PATIENT TO FRESH AIR IMMEDIATELY. IF BREATHING STOPS START ARTIFICIAL RESPIRATION PROMPTLY. RECOVERY SHOULD BE COMPLETE AND PROMPT. /NITROGEN/ [RUMACK. POISINDEX 1975-PRESENT]

MEDS - NO DATA
HTOX - APPARENTLY METHANE ITSELF DOES NOT EFFECT MAN, BUT IT REDUCES THE CONCENTRATION OF OXYGEN IN THE AIR WHICH RESULTS IN A LACK OF OXYGEN. ...SIMPLE ASPHYXIANT & MAY ACT AS A /PRC: CNS DEPRESSANT/...IN HIGH CONCN IN THE ABSENCE OF OXYGEN. [RUMACK. POISINDEX 1975-PRESENT]

FBEX - THE CHIEF DANGER IN THE COAL MINING INDUSTRY IS EXPLOSION HAZARD. HOWEVER, BECAUSE OF ITS LOW DENSITY, METHANE MAY ACCUMULATE IN THE UPPER STRATA OF POORLY VENTILATED AREAS TO PRODUCE AN ASPHYXIATING ATMOSPHERE. [PATTY. INDUS HYG & TOX 2ND ED VOL2 1963]

OCPP - BURNS WITH A PALE, FAINTLY LUMINOUS FLAME: AIR CONTAINING MORE THAN 14% METHANE BURNS WITHOUT NOISE [MERCK INDEX 10TH ED 1983]

COFO - COLORLESS GAS [MERCK INDEX 10TH ED 1983]
COFO - Liquid [CHRIS. HAZARD CHEM DATA MANUAL 2 1978]
ODOR - ODORLESS [MERCK INDEX 10TH ED 1983]
ODOR - Mild, sweet [CHRIS. HAZARD CHEM DATA MANUAL 2 1978]
TAST - TASTELESS [HAWLEY. CONDENSED CHEM DICTNRY 10TH ED 1981]
BP - -161.4 DEG C [MERCK INDEX 10TH ED 1983]
MP - -182.6 DEG C [MERCK INDEX 10TH ED 1983]
MW - 16.04 [MERCK INDEX 10TH ED 1983]
CTP - CRITICAL TEMPERATURE: -82.25 DEG C; CRITICAL PRESSURE: 45.8 ATM [MERCK INDEX 10TH ED 1983]
DEN - 0.7168 G/L [MERCK INDEX 10TH ED 1983]
DSC - NO DATA
HTC - 979 BTU/CU FT @ 25 DEG C (1 KG OF METHANE YIELDS 13,300 KCAL) [MERCK INDEX 10TH ED 1983]
HTV - 2,128.8 kcal/mol [WEAST. HDBK CHEM & PHYS 60TH ED 1979]

FIGURE 17, APPENDIX C
SAMPLE SEARCH
TOXLINE
TOXICOLOGY INFORMATION ONLINE

```
YOU ARE NOW CONNECTED TO THE TOXLINE (1981 FORWARD, NON-ROYALTY) FILE

SS 1 /C?
USER:
coal and dust and mining
PROG:
SS (1) PSTG (606)
```

Two hundred and forty-eight items are in the Toxline file on coal dust and mining. One of the citations is listed below.

```
9
TI  - A critique of MSHA procedures for determination of permissible respirable
      coal mine dust containing free silica.
AU  - Corn M
AU  - Breysse P
AU  - Hall T
AU  - Chen G
AU  - Risby T
AU  - Swift DL
SO  - Am Ind Hyg Assoc Jl VOL 46, ISS 1, 1985, P4-8
AB  - The literature in selected technical subject areas related to the Mine
      Safety and Health Administration's (MSHA) respirable mine dust control
      policy was critically reviewed. Specific topics included: (1) the
      technical aspects of respirable dust sampling, (2) the development of a
      sampling strategy and (3) currently used analytical techniques for free
      silica content of respirable coal mine dust. The 2.0 Lpm MSHA respirable
      dust sampling flow rate does not conform with published results which
      indicate that to simulate existing pulmonary particle deposition models,
      the sampling flow rate should range from 1.4 to 1.7 Lpm. MSHA's sampling
      strategy focuses on controlling respirable coal mine dust with both area
      and personal samples of workers in selected occupations or activities.
      Many uncertainties are encountered as area samples are used to estimate
      personal exposures. Although all of the analytical methods for
      crystalline free silica are sufficiently sensitive to be able to detect
      and quantitate free silica at environmentally significant concentrations,
      they are all plagued with similar difficulties. Analytical standards
      representing the various forms of silica are not available. Available
      analytical methods do not differentiate among polymorphs of silica.
      Recommendations are presented to resolve identified problem areas.
```

FIGURE 18, APPENDIX C
SAMPLE SEARCH
CORPS OF ENGINEERS PRIVATE FILE

```
File 928:Army Engineers Reports File

      Set  Items  Description

S1
?B EMBANKMENT? ?
     S5     441  EMBANKMENT? ?
?B CONSTRUCTION
     S6    1674  CONSTRUCTION
?C 5 AND 6
              441  5
             1674  6
     S7        78  5 AND 6
```

Seventy-six items are in the file on "embankments and construction." Two of the embankment citations are listed below.

```
 7/5/34
012868
  EMBANKMENT BORROW MATERIALS.
  JARBOE, RALPH R.
  Corporate Source: UNITED STATES. ARMY. CORPS OF ENGINEERS. TULSA
DISTRICT.
  Publication Date(s): 31 JANUARY 1979
  Local Call No.: XXX
  Summary Note: VECP SWT 79-08.
  Notes: VALUE ENGINEERING REPORT. CIVIL. ABSTRACT: BEFORE -- THIS ACTION
INVOLVES AN APPROVED VECP FROM LIST AND CLARK CONSTRUCTION COMPANY
REGARDING EMBANKMENT BORROW MATERIALS FOR CONTRACT DACW56-77-C-0166,
SKIATOOK LAKE, OKLAHOMA. AFTER -- THE CONTRACTOR IDENTIFIED A SOURCE OF
BORROW CLOSER TO THE EMBANKMENT THAN THE SPECIFIED BORROW AREA. BY LIMITING
HIS OPERATIONS WITHIN AN ACCEPTABLE MINIMUM DISTANCE OF AN EXISTING
PIPELINE. THE PROPOSAL WAS APPROVED AND THE CONTRACT PRICE RE- DUCED BY
$9,048.72. NET REPORTABLE SAVINGS AFTER GOVERNMENT RE- VIEW AND
MODIFICATION WERE $8,592.72. IDEA INTERCHANGE: CIVIL.
  Descriptors: FILLS (EARTHWORK)
?T 7/5/43

 7/5/43
012791
  SUBSTITUTION OF ROCK EXCAVATION FOR SELECT BACKFILL.
  LANIER, E. G.
  Corporate Source: UNITED STATES. ARMY. CORPS OF ENGINEERS. WILMINGTON
DISTRICT.
  Publication Date(s): 29 SEPTEMBER 1978
  Local Call No.: XXX
  Summary Note: VECP SAW 78-8.
  Notes: VALUE ENGINEERING REPORT. CIVIL. ABSTRACT: BEFORE -- CONTRACT
DACW54-78-C-0034 FOR RELOCATION OF STATE ROAD 1900/1906, FALLS LAKE
PROJECT, NORTH CAROLINA, REQUIRED THE CON- TRACTOR TO CONSTRUCT A COMPACTED
ROADWAY EMBANKMENT OVER A LAKE BED DURING A TEMPORARY LAKE DRAWDOWN PERIOD.
DUE TO THE SATURATED SOFT FOUNDATION CONDITION, A LAYER OF SELECT BACKFILL
MATERIAL WAS SPECIFIED TO BE PLACED OVER THE FOUNDATION PRIOR TO STARTING
NORMAL PLACEMENT OPERATIONS FOR THE COMPACTED EMBANKMENT. AFTER -- AS A
RESULT OF THE CONTRACTOR'S PROPOSAL UNDER THE VALUE ENGINEERING INCENTIVE
CLAUSE OF THE CONTRACT, CONTRACT MODIFICA- TION P-00002 WAS CONSUMMATED TO
SUBSTITUTE ROCKFILL OBTAINED FROM A CUT SECTION IN ANOTHER PORTION OF THE
WORK FOR THE SELECT BACK- FILL. COST OF SELECT BACKFILL = $10,000. COST OF
ROCKFILL = $3,000. CONSTRUCTION SAVINGS = $7,000. CONTRACT REDUCTION AT 45%
= $3,150. SUPERVISION AND ADMINISTRATION SAVINGS AT 6% = $420. GROSS
SAVINGS = $3,570. OFFSETTING COST = $570. NET SAVINGS = $3,000. IDEA
INTERCHANGE: SOILS AND FOUNDATIONS.
  Descriptors: FILLS (EARTHWORK) ; EMBANKMENTS
```

FIGURE 19, APPENDIX C
SAMPLE SEARCH
OCLC - ONLINE COMPUTER LIBRARY CENTER
INTERLIBRARY LOAN

```
host:  WELCOME TO O.C.L.C.
PLEASE RECORD YOUR TERMINAL INFORMATION NUMBERS.  IF HAVING
TROUBLE, CALL OCLC ON ANOTHER LINE AND FURNISH THESE NUMBERS.
YOUR TERMINAL INFORMATION NUMBERS ARE:
#D001
P 7465
OCLC IS ON LINE
```

The process listed below identifies the libraries connected to the OCLC system that have a specific requested publication. The name of the library is abbreviated--for example, "COP," Colorado School of Mines; "ULM," MSHA Informational Service Library; and "WVU," West Virginia University Library. The loan request may be initiated once the document is located.

```
Screen 1 of 2
ULM - FOR OTHER HOLDINGS, ENTER dh DEPRESS DISPLAY RECD SEND
OCLC: 8988221       Rec stat: n Entrd: 821124        Used: 840803
Type: a Bib lvl: m Govt pub:   Lang:  eng Source: d Illus: a
Repr:   Enc lvl: I Conf pub: 0 Ctry:  dcu Dat tp: s M/F/B: 10
Indx: 0 Mod rec:   Festschr: 0 Cont:
Desc: a Int lvl:   Dates: 1982,
  1 010
  2 040     ULM $c ULM
  3 020     07606767X
  4 090     TN292 $b .H446
  5 049     ULMA
  6 100 10  Heenan, Michael T.
  7 245 10  Understanding MSHA : $b A quick and easy guide to the Mine
Safety and Health Administration / $c Michael T. Heenan.
  8 260 0   Washington, D.C. : $b McGraw-Hill Publications, $c 1982.
  9 300     181 p. : $b ill. ; $c 27 cm.
 10 650  0  Mine safety $z United States $x Handbooks, manuals, etc.
 11 650  0  Mine safety $x Law and legislation $z United States $x
Handbooks, manuals, etc.
 12 610 10  United States. $b Mine Safety and Health Administration.
DHA\+
 ALL LOCATIONS -  FOR OTHER HOLDINGS DISPLAYS ENTER dhs, dhs, dhr OR dh.
DISPLAY RECD, SEND:  FOR BIBLIOGRAPHIC RECORD ENTER bib, DISPLAY RECD,
SEND

STATE     LOCATIONS
 CO      COP ULM
 IL      SDI
 KY      KMM KWC
 OH      OSH
 OR      NCY
 UT      uuz
 WV      WVU
```

APPENDIX D
SAMPLE SEARCH
MSHA I.S. LIBRARY COMPUTER PROGRAM

```
ANY TIME YOU NEED HELP, ENTER HELP AND PRESS RETURN KEY

LHSAC-MSHA  LB300LA              LIBRARY QUERY                    TODAY IS 90-09-13

ENTER COMMANDS
? SEARCH SUBJECT DISASTERS AND COAL RUNSEARCH
 SUBJECT          219 DISASTERS
 SUBJECT         3390 COAL

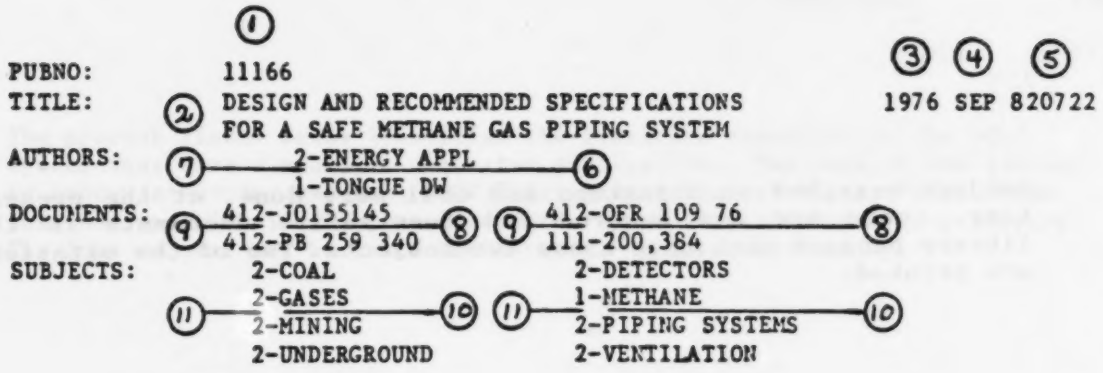
AND HITS -     125
HITS -     125
```

Subject searches on disasters and coal were done. At the present time, there are one hundred and twenty-five documents in the library program that have these two subjects. Two of the citations are printed.

```
PUBNO:      11935        HIT NO.     2
TITLE:      MSHA'S  WAYS ON COAL                                    0000 JAN 840307
AUTHORS:        1-SCOTT FE
DOCUMENTS:    111-201.858
SUBJECTS:       2-COAL                          2-DISASTERS
                2-EXPLOSIONS                    2-FUTURE
                2-HISTORY                       2-MINING
                1-MSHA                          2-REGULATIONS
                2-RESCUE                        2-SAFETY
                2-UNDERGROUND

PUBNO:      12101        HIT NO.     3
TITLE:      THE EFFECTS OF DISASTERS ON MINE SAFETY                 1976 FEB 830505
            LEGISLATION
AUTHORS:        2-AIME
                1-BARRETT RE
                2-MESA
DOCUMENTS:    111-200.733                   412-79-F-49
SUBJECTS:       2-COAL                          1-DISASTERS
                2-EXPLOSIONS                    2-FATALITIES
                2-INJURIES                      2-LAMPS
                2-MINING                        2-REGULATIONS
                2-SAFETY                        2-VENTILATION
```

SAMPLE OUTPUT



REFERENCE LIST OF ELEMENTS

1. PUBNO - A number assigned by the MSHA Librarian to uniquely identify each publication and to associate the title with all authors, documents and subjects.

2. TITLE - The title of the publication.

3. Year of publication.

4. Month of publication.

5. Date entered into the system.

6. Name of Authors.

7. Type of Author.

   1 - Personal Author
   2 - Corporate Author

REFERENCE LIST OF ELEMENTS (Continued)

8. DOCUMENTS - Document numbers include a wide range of identifiers associated with the publication. It will include shelf-placement numbers, contract numbers, special agency identification, Library of Congress identification, etc. Some of these identifiers are:

200,000 series numbers - shelf placement numbers for hard-copy publications.

400,000 series numbers - shelf placement number for publication on microfiche.

JOURNAL - This word indicates the publication is a journal or magazine. Other numbers associated with a journal may include the volume or year and the issues present in the library.

Examples of the form of other numbers are:

AD 714 408 - NTIS identification
PB 194 398

OFR 122 77 - Bureau of Mines contract reports

SMRE RP 205 - Society of Mining Research Establishment (British)

HD 9545 .S9182 - Library of Congress

9. Three-digit number preceeding document consists of three codes:

Recording Media (first digit)

1 - Hard copy
2 - Microfilm
3 - Microfiche
4 - Other

Copies of Media (second digit)

Document Identification Type (third digit)

1 - MSHA identification
2 - Other organization identification

REFERENCE LIST OF ELEMENTS (Continued)

10. SUBJECT - Subjects of the publication. Assigned by the Librarian.

11. SUBJECT TYPE - The number preceding the subject.

    1 - Primary subject
    2 - Secondary subject

APPENDIX E
"MSHA MESSENGER" ARTICLES

MSHA Informational Service Library is Now Available

The need for an information center dedicated primarily to safety and health in mining has become increasingly apparent with the advent of comprehensive safety and health legislation in the U.S. mining industry. The enforcement of regulations and collection of statistics was carried out by the Bureau of Mines until 1973 when these responsibilities were given to the Mining Enforcement and Safety Administration (MESA) and later to the Mine Safety and Health Administration (MSHA).

After 1971, all mine injury, employment and coal mine production statistics were collected and processed at the Health and Safety Analysis Center (HSAC) in Denver, Colo., which became the primary repository for historical and current statistical information.

The increased demand for detailed statistical information highlighted the need for a centralized source of mining health and safety information that not only included but extended beyond the statistical data requirements. The staff was faced with the occasional inability to respond fully to requests for analytical compilations and reports. Shortly after MSHA moved into 730 Simms St. in Lakewood in 1978, an ideal location for a small library became available and HSAC assumed the responsibility for developing an information service center.

The services of senior staff members from the School of Librarianship at the University of Denver were retained under contract and, on their recommendation, the basic supplies and equipment were obtained. The physical plant was slowly organized and the library collections were sorted, collated and shelved when received from various MSHA and other sources. Near the end of 1979, a full time professional librarian was hired. At about this same time, an MSHA information study was commissioned by the assistant secretary to confirm existing capabilities and potential coordination needs. The HSAC library is following the recommendations of the study in adopting standardized procedures and systems leading to greater coordination with the Learning Resource Center in Beckley and a potential headquarters library in Arlington.

As a result of discussions and interviews with all MSHA organizational groups in Denver, many books, journals and documents pertinent to MSHA activities are in the library collection. These items are available for in-house reference and outside borrowing limited to use and availability factors.

The information service has online access to Lockheed Reference Files, Ohio College Library Center and the National Library of Medicine. These online systems provide a subject access to scientific information; selected documents and publications can be identified and located and in many cases interlibrary loans can be arranged or the source can be identified for purchase.

The Lockheed system (DIALOG) is a large bibliographic reference source in which subject matter is identified by key words and vast numbers of publication references can be electronically scanned and the pertinent references listed; if requested, the listing can contain the reference abstract. In response to a recent request for research on "mine vehicles," the requests used "mine, mines, mining; vehicle, vehicles" as key words, which produced 209 references and abstracts. With this large number of references, it was requested that they be printed off line and mailed to Denver which took 3 days. If only a few references were identified, then they could have been printed online in Denver.

The Ohio College Library Center (OCLC) is a computerized data file containing the book (monograph) holdings of many libraries in the United States. When a book reference is identified from the KIALOG system, or known from any source, the library or libraries that have the book can be located through the OCLC file and interlibrary loan procedures initiated.

Access to MEDLARS was acquired to provide scientific information in the broad area of health research. MEDLARS is the computerized literature retrieval services of the National Library of Medicine (NLM), a part of the National Institutes of Health under HHR's Public Health Service. NLM is the world's largest research library for a single scientific and professional field. Several segments are identified within MEDLARS, each of which contains thousands of subject references: (1) MEDLINE contains about 600,000 references to biomedical journal articles published in the current and previous two years; (2) TOXLINE is a collection of about 520,000 references from the last five years on human and animal toxicity studies, effects of environmental chemicals and pollutants, and adverse drug reactions; (3) CHEMLINE is a file of about 760,000 names for chemical substances, representing about 380,000 unique compounds. Twelve other health related literature files are available in MEDLARS.

A system of microfilm cartridges containing indexed reproduceable information from more than 23,000 vendor catalogs is leased from information

(continued on p. 8)

(continued from p. 6)

Handling Services. The vendor data are cross-indexed by subject or product and manufacturer. Associated information includes indentification of the industry standards which apply to the subject or product. Also in the microfilm system are several sets of industry standards. (1) American National Standards Institute (limited to mining related); (2) American Society for Testing Materials (limited to mining related); (3) National Fire Protection Association; (4) American society of Mechanical Engineers; (5) National Electrical Manufacturers Association; (6) Institute of Electrical and Electronics Engineers; and (7) Underwriters Laboratory.

The MSHA Informational Service at HSAC is prepared to respond to the needs of MSHA personnel to the maximum extent possible within available resources. The capability for additional response is expected to be developed as the primary needs are identified, and the needs will become evident only as a result of utilization of the service. If you think the informational service can help resolve your specific technical information need, please contact Jim Greenhalgh, FTS 234-4961.

Don Redmon

Jan-Feb. 1981
The Messenger

A newsletter for and about MSHA employees published by the MSHA, Office of Information

Wayne E. Veneman, Chief
Office of Information

Frank O'Gorman, Editor

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Ballston Tower No. 3
Arlington, Va. 22203
(703) 235-1452

Relief for researchers: computers!

by Rhys Llewellyn
Chief, Branch of Injury
and Employment Information,
HSAC

Anyone who has ever needed to write research papers, make speeches, or just follow up on a particular problem knows how time consuming it can be to find information specific to a very narrow or complex subject.

Now, relief is at hand thanks to the computer age.

The MSHA Informational Service Library in Denver, Colo., currently has "online" access to three major computerized data bases: the Lockheed Reference Files, the National Library of Medicine Specialized Information Service, and the Ohio College Library Systems.

These online systems provide a subject access to scientific information; selected documents and publications can be identified and located, and in many cases interlibrary loans can be arranged or the source can be identified for purchase.

The Lockheed system (DIALOG) has more than 75 million records. These records range from directory type listings to citations with bibliographic information containing abstracts and reference journals, conference papers, and other original sources.

The topics are contained in nearly 200 separate data bases and range from advertisements to zoology. Of particular interest to MSHA employees are the data bases which include environmental and energy issues, minerology and geoscience, engineering, biochemistry, metallurgy, chemical storage and transportation, congressional hearings, proposed Federal rules and regulations, mine safety and health cases, and government and industry safety standards.

To provide the most recent information on each subject, these data bases are updated regularly.

The MSHA library is also connected to the chemical and toxicological data bases with the National Library of Medicine (NLM). Data for over 525,000 chemical substances can be searched and retrieved, providing information on their chemical index, formula, molecular configuration, generic name, and their location in other NLM files.

The NLM also has online over 400,000 references to published human and animal toxicity studies from 1979 to the present, covering the effects of environmental chemicals and pollutants, adverse drug reactions, and analytical methodology.

An additional 860,000 references of studies from 1965 to 1978 are contained in back files. A registry of the toxic effects of chemicals is also maintained on over 50,000 potentially toxic chemicals. This file provides exposure standards, threshold limit values (TLV), and carcinogenic information.

An additional data bank is comprised of chemical, pharmacological, and toxicological data on over 3,500 substances. From this file, one may find synonyms, generic names, trade names, molecular formulas, TLV's, maximum daily doses, fatal doses, antidotes, treatments, therapeutic uses, chemical and physical properties including shelf life, biological half-life, explosive limits, fire potential, and environmental health hazards.

The Ohio College Library Center (OCLC) provides MSHA with computerized access to the holdings of approximately 3,000 libraries. Through this system, books, professional journals, monographs, and papers may be located and borrowed.

The information for these data bases is accessed through an MSHA terminal connected to the central computer facilities. For both the Lockheed DIALOG and the National Library of Medicine files, the user may type in one or several keywords from a journal title, abstract, or a subject matter. The terminal responds by indicating the number of occurrences of the keyword.

The user then has the option of seeing more information about those occurrences or printing an abstract of the paper or manuscript. If the number of abstracts is high, then they may be printed off-line and mailed. The Lockheed DIALOG system also may be accessed at the various Technical Support offices.

Through the OCLC, a desired manuscript, periodical, or book may be located within ten minutes by using the title, author or Library of Congress number. Once located, the procedure of initiating an interlibrary loan can begin.

If the MSHA library can be of assistance to you in your work, please contact Jim Greenhalgh at 303-234-4961, P.O. Box 25367, Denver, CO 80225.

This is the first of a series of three articles concerning the MSHA Informational Service Library. The second article will discuss the MSHA microfilm files on American standards and vendor catalogs. The third will discuss MSHA's own computerized library file.

Messenger
July-August 1983

Relief for researchers: Computers! Part II

by Rhys Llewellyn
Chief, Branch of Injury and Employment Information, HSAC

There may be no joy in Mudville since mighty Casey struck out, but MSHA's Informational Service Library can tell you where joy will be found.

Along with 24,000 other American manufacturers and distributors, the address, telephone number, and products of the Joy Manufacturing Co. are available for immediate access in microfilm cartridges at the MSHA library located in the Health and Safety Analysis Center in Denver, Colo.

The search for data on a specific firm begins with hardcopy directories indexed by one of three different methods: company name, product name, or general product category.

The company name index provides a list of all 24,000 companies in alphabetical order along with the company's address and its various products.

The product index alphabetizes the various products' names and the manufacturing companies of each product. For example, under the heading "front-end loader," the direcory lists over 50 companies in the United States that manufacture them.

The third index is the general product category. If the specific product or company name is not known, the user may select a noun or name that best identifies the item, process, service, or function. Based on this information, the specific product and the manufacturers can be identified.

Each directory provides the microfilm cartridge and frame numbers to access the company catalogs. Photographs or detailed drawings of the equipment or products are often shown. The microfilm records can be converted to hardcopy and mailed to MSHA personnel upon request.

Industrial standards also are available on microfilm. The library maintains many standards of the American National Standards Institute (ANSI) that pertain to mining activities. Additional standards maintained on microfilm include those from the American Society for Testing and Materials (ASTM), Institute of Electrical and Electronics Engineers (IEEE), National Electrical Manufacturers Association (NEMA), National Fire Protection Association (NFPA), and Underwriters Laboratory (UL).

The library also maintains hardcopy standards from the following organizations: American Concrete Institute (ACI), American Society of Heating Refrigerating and Air-Conditioning Engineers (ASHRAE), American Welding Society (AWS), and the Society of Automotive Engineers (SAE). If the industry standard number is known, it becomes a relatively easy task to retrieve the desired information. For example, if a requestor wanted a copy of the ANSI standard for safety in welding and cutting, they should refer to the industry standard number appearing in conjunction with it, in this case, "Z49.1-73."

Both the manufacturer catalogs and the industry standards are kept current. If such information may be of use to you, please contact Jim Greenhalgh at 303-234-4961, P.O. Box 25367, Denver, CO 80225.

This is the second in a series of three articles concerning the MSHA Informational Service Library. The last article will discuss MSHA's own computerized library file.

Messenger

September-October 1983

Relief for researchers: Computers! Part III

by Rhys Llewlyn
Chief, Branch of Injury and Employment Information, HSAC

Where would you go to find information on a specific American manufacturer, roof bolting, or to follow up on a particular problem? The answer is MSHA's Informational Service Library.

The MSHA Informational Service Library in Denver, Colo., has more than 15,000 documents, including books, periodicals, contract reports, and journal articles on microfilm or hardcopy form, on mining technology, equipment, commodities, environment and, most importantly, mine safety and health.

New items for the library arrive daily, and the library continues to seek additional mining material to add to the collection. A list of new additions to the library is distributed monthly to MSHA offices.

In addition to the usual card cataloging of material, the computer age has enabled the library to design its own computerized data file containing the title, author, subject matter, document number, date of publication, and a library locator number. This greatly reduces the time required to research specific subject matters.

An additional advantage is that field personnel, with a computer terminal and modem, may access the library file directly. Once the specific document is identified, the user may either call the HSAC library or send a message via the terminal indicating which document he or she would like to borrow or have copied.

About half a day's training is all that would be required to learn this procedure. Arrangements for the training and acquisition of a password may be made through the library.

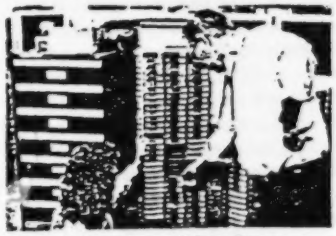
There are approximately 4,000 documents in the computer file at present, with additional library

Library assistants, Sonny Mann, left, and Betty Edwards are shown operating the interlibrary computer program.

documents added daily. A list of topics for which bibliographic computer searches have already been performed is published periodically and such bibliographies are available upon request. A list of journals maintained by the library also is contained in the computer file for researchers seeking specific journal information. A journal holding list is published annually by the library around mid-year.

The documents in the library's collection have come primarily from the Bureau of Mines (BOM) in the form of Information Circulars, Bulletins, Miners' Circulars, Minerals Yearbooks, Contract Reports, Reports of Investigations, Technical Papers, and Technical Progress Reports. The library has hard copy indexes of BOM publications from 1910 through 1981 and a computer index of BOM publications from 1982 to present.

Aside from the MSHA and BOM documents, the library contains mining-related materials from the Departments of Agriculture, Commerce, Defense, Energy, and Transportation. In addition, there are publications from Occupational Safety and Health Administration, National Institute for Occupational Safety and Health, Environmental Protection Agency, General Accounting Office, Nuclear Regulatory Commission, National Bureau of Standards, and Office of Surface Mining. Documents also have been received from Canada, England, Australia, South Africa, Poland, Germany, and other countries.



Betty Edwards and Jim Greenhaigh selecting microfilm cartridges of ANSI standards.

Extensive information on ground support, subsidence, hydrology, earth structures and dams will be available soon thanks to the addition of computer files provided by the Department of the Army's Corps of Engineers. These files will indicate all the publications of the Corps and all of the holdings of the Corps' libraries throughout the U.S.

Additionally, as an update on the first article in this series appearing in the July-August issue of *Messenger*, the library is in the process of obtaining from Occupational Health Services, a data base entitled "Hazardline" which will provide valuable chemical information.

Once the user states the chemical of interest, the data base will, among other things, indicate the personal protective clothing needed to wear in its presence, the exposure levels, symptoms of exposure, first-aid treatment, and organs affected by the chemical.

This is the last of a series of three articles concerning the MSHA Information Service Library. If you would like additional information concerning the library or if it may be of assistance to you, please contact Jim Greenhaigh at 303-234-4961, HSAC, P.O. Box 25367, Denver, CO, 80225.

Messenger
November-December 1983

Messenger

Employee newsletter of the Mine Safety and Health Administration
September-October 1987 Vol. XIV, No. 4

New informational discs available from MSHA library

Contributed by Jim Greenhalgh

Do you ever need information on chemicals or hazardous substances?

There are now four CD ROM discs that contain information on chemicals, hazardous materials, and occupational health and safety available in the MSHA library at the Denver Safety and Health Technology Center. If needed, this information can be retrieved in matter of minutes and sent to the requestor. Where there are urgent needs, the information will be telefaxed or sent overnight.

One of the many search capabilities from the discs pertains to the identification of chemicals. Searches can be done on the color of smoke, the smell of the substance, or other physical properties. Specific chemicals can be found through searching the above-mentioned characteristics. After the chemical is identified, information can be retrieved from the discs that will tell what effects the various chemicals will have on the human body.

Information can also be obtained concerning the types of protective clothing and equipment to be used while working with a specific chemical or hazardous substance. Employees who work with chemicals will need material safety data sheets (MSDS) on the work site. Let the library know which MSDS sheets are needed and they will be sent.

The following discs are now available for the scientific research needs of MSHA offices around the country.

The Chem Bank Disc

Registry of Toxic Effects of Chemical Substances (RTECS)—U.S. Department of Health and Human Services. The information contained on this portion of the disc is toxicity data on over 80,000 substances.

Oil and Hazardous Materials Technical Assistance Data System (OHMTADS)—U.S. Environmental Protection Agency. This portion of the disc has a wide variety of physical, chemical, biological, toxicological, and commercial data on over 1,000 substances.

Chemical Hazard Response Information System (CHRIS)—U.S. Department of Transportation-Coast Guard. This part of the disc has preventive, precautionary, and emergency response information on over 1,000 hazardous chemicals.

The OSH-ROM Disc

National Institute for Occupational Safety and Health (NIOSHTIC)—There are 130,000 references to the workplace safety and health literature on this portion of the disc.

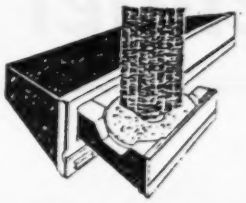
The Health and Safety Executive (HSELINE)(United Kingdom)—There are 85,000 references that relate to health and safety in such areas as occupational hygiene, explosives, mining, and industrial pollution on this part of the disc.

International Labor Organization (United Nations) (CISDOC)—This part of the disc contains over 25,000 citations from over 35 countries on such subjects as industrial hygiene, accident prevention, safety engineering, ergonomics, and toxicology.

The CCINFO Disc

Canadian Centre for Occupational Health and Safety—This disc has chemical trade names, chemical information, studies from Canada on occupational health and safety, Canadian standards, chemical bibliographic information, and chemical hazard summaries.

CD ROM Compact Disc



Just one four-and-three-quarter-inch CD ROM disc has the same information storage capacity as 297,000 double-spaced pages of manuscript.

OHS MSDS Disc

Occupational Health Services, Inc., New York (OHM MSDS)—This disc contains over 10,000 of the most frequently used chemicals. Ninety-five percent of all hazardous substances that are shipped and used in the United States. Data on over 300,000 mixtures can be obtained from the disc. The correct name or chemical synonym does not have to be used to find a specific chemical. There are over 150,000 chemical synonyms on the disc. Over sixty symptoms can be searched. If a person has been exposed to a chemical and the body reacts, the body reaction can be searched and the chemical can be found.

When searching and retrieving information from the discs, there is no telephone connect charge. The information can be retrieved in a very short time.

The library also has the following data bases that can be searched for chemical information: MEDLARS (National Library of Medicine); TOXNET (National Library of Medicine); Hazardline (Occupational Health Services); and OCIS (OSHA Computerized Information System).

To obtain any of the information mentioned in this article call Jim Greenhalgh or Kevin Green at FTS-776-2729 or 303-236-2729. You may also write to the MSHA Library, P.O. Box 25367, Denver, CO, 80225.

Messenger

Employee newsletter of the Mine Safety and Health Administration
August-September 1989 Vol. XVI, No. 2

MSHA library has more computer document programs

by Compiled by Messenger Staff

About two years ago the MSHA library in Denver announced the availability of four CD ROM discs containing information on chemicals, hazardous materials, and occupational health and safety were available. If needed, this information could be retrieved in a matter of minutes and telefaxed to the requestor.

The library has added two more important computer document programs available for MSHA researchers.

One program now available is the computerized data base. There are over 11,000 microfiche and hard-copy documents on mine safety and health indexed by subject, author, and document number in this data base. Examples of the information on this system include all articles from the *MESA* magazine and *Mine Safety & Health* magazine, Bureau of Mines documents, Canadian and other foreign country documents. At the present time, the Safety and Health Technology Center at Denver and the Approval and Certification Center are accessing this program. Any MSHA office that has a computer terminal, a modem, and a telephone can access the indexes of this system.

The second program is the computer index of reports of mining accidents. There are over 8,000 nonfatal and fatal metal/nonmetal and coal reports indexed in this system at the present time. An ongoing project to input the index information for all accident reports is in progress. These reports are indexed by mine ID, date of accident, degree of injury, accident classification, type of mine product, equipment involved, nature of injury, specific subjects, work location, and the gender of the individual injured.

The library staff will do search requests on accident reports and the staff will also copy reports that are requested.

To obtain further information about these programs, contact Jim Greenhalgh at the library in Denver on FTS-776-2729.

NEW PUBLICATIONS

FROM THE MSHA INFORMATION SERVICES LIBRARY

3RD QUARTER

FOR FURTHER INFORMATION

Call

Jim Greenhalgh
FTS 776-2729
Com. 303-236-2729

Write

MSHA LIBRARY
Attn: Jim Greenhalgh
P. O. Box 25367
Denver, CO 80225

PART I . . . . . New Books 1

PART II. . . . . Hard Copy Documents . . . 2

PART III . . . . . Microfiche Documents. . . 8

APPENDIX F (Continued)

PART II

HARD COPY DOCUMENTS

ABANDONED

ABANDONED MINES (207, 234) ND

COMPLETE RECONCILIATION OF THE ABANDONED MINE LAND FUND NEEDED (207, 135) 1988

ACCIDENTS

CONTRIBUTION OF SYSTEM FACTORS IN THE OCCURRENCE OF UNDERGROUND INJURY ACCIDENTS (207, 076) 1990

IMPACT OF FATALITY COMMITTEES ON THE INVESTIGATION OF FATAL ACCIDENTS (207, 227) 1990

KEEPING ON TOP OF ACCIDENTS AND VIOLATIONS (207, 178) ND

ACID

ACID MINE DRAINAGE (OCTOBER 1978 - MAY 1989) (207, 265) 1989

ALCOHOL

ALCOHOLISM IN THE WORKPLACE WHAT YOU CAN DO (207, 136) 1986

BACK CARE

BACK CARE EXERCISE PROGRAM (207, 218) ND

BINS

BINS AND BUNKERS (207, 170) 1989

BLACK LUNG

WAR ON BLACK LUNG (207, 089) 1990

BLASTING

ALUMINUM ADDITIONS TO BULK EXPLOSIVES CAN CUT DRILLING AND BLASTING COSTS (207, 167) ND

BLASTING AND VIBRATION CONTROL IN BRITISH OPENCAST COAL MINING (207, 207) 1989

CAST BLASTING IN CANADIAN SURFACE COAL MINES (207, 115) 1989

EFFECT OF OPERATING PARAMETERS AND ROCK FORMATION TYPE ON ROTARY BLAST HOLE DRILL PERFORMANCES (207, 110) 1989

OUTSMARTING BLAST VIBRATIONS (207, 108) 1989

SAFEGUARDING OF BLAST AFFECTED AREAS (207, 106) ND

SEISMIC WAVE GENERATION AND PROPAGATION FROM COAL MINE BLASTS AT THE WRIGHT MINE INDIANA (207, 165) 1982

USE OF WIRELINE LOGGING TO CONTROL BLASTING (207, 134) 1989

APPENDIX F (Continued)

PART III
MICROFICHE DOCUMENTS

ACCIDENTS

BARRIER ANALYSIS (404, 841) 1985

AEROSOLS

AEROSOL DEPOSITION AND LOSSES IN TWO ALPHA AIR MONITORS (404, 859) 1985

ALUMINUM

ASSESSMENT OF TECHNOLOGY FOR POSSIBLE UTILIZATION OF BAYER PROCESS MUDS (404, 844) 1976

INVESTIGATION OF ARKANSAS BAUXITE (404, 885) 1948

ASBESTOS

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